A STUDY OF THE PRESERVICE TRAINING OF PRIMARY SCHOOL TEACHERS FOR VOCATIONAL EDUCATION IN KENYA

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BY

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DECLARATION

This Dissertation is my original work and has not been presented for a degree in any other University

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This Dissertation has been submitted with our approval as University Supervisors.

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DEDICATION

This Dissertation is dedicated to:

My Dear Wife, Elizabeth Mse
My Dear Daughter, Eve Nakesa Mse

and

My Dear sons, Kenneth Simiyu Mse
and Keith Kiliswa Mse who stood
by me at all times and gave me
encouragement in all ways.

To my Wife, I say thank very much,
and to my children I say unto them:-

Always aim higher than what your
parents have achieved.

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The principals, tutors and students of the Primary Teachers' Colleges used in the study. Without their input, the study would not have been accomplished.

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DISSERTATION ABSTRACT

The study was designed to examine the type of training the primary school teacher trainees undergo in the area of the vocational subjects - Art/Craft, Music, Homescience, Business Education and Agriculture.

The Problem

Following the introduction of the 8-4-4 system of education in Kenya, one of the problems to be dealt with was the question of provision of qualified teachers - especially in the area of technical and vocational education. This cadre of teachers was lamentably in short supply.

Population Sample

The study was conducted among the government Primary Teachers' Colleges in Kenya. At the time of the study, there were fifteen (15) teachers' colleges from which eight (8) were randomly selected as explained in chapter three of the dissertation. The eight (8) principals of these colleges were respondents in the study. In addition, three hundred and twenty (320) students and eighty (80) tutors were also randomly selected as explained in chapter three.

Findings of the Study

After collecting and analysing the data, several findings were evident:

- there is a considerable shortfall in the number of staff required by the colleges in each of the subjects studied.

- the tutors enumerated various problem areas in their subject areas:-

  Art/craft: Leatherwork, woodwork, puppetry fabric design, lithography, weaving, building construction and metal work.

  Music: Playing of musical instruments, playing western music, methodology and theory of music.

  Homescience: Clothing and textiles, practical cookery, foods and nutrition, laundry and needlework.

Business Education:

Accounts, office practice and business records.

Agriculture: Farm structures, crop diseases, fertilizer calculations, farm tools, fish farming, soil ph, agricultural economics.

- students lack the ability to relate theory and practice in each of the subjects.

Recommendations

Arising from the field study and the findings of the study, the following summary recommendations were made:

- the graduate tutors in the colleges are severely handicapped as their university education courses do not prepare them for teaching in a Primary Teachers' College. It is therefore, recommended that:
  (a) the primary methods of teaching be incorporated in the teaching methods section of each teaching subject at the universities.

(b) the Bachelor of Education (Primary Option) and Master of Education (Primary Teacher Education) be revived, strengthened and started in all the universities Faculties of Education in Kenya.

(c) Since the current Bachelor of Education Programs do not equip the graduates with Primary methods of teaching, the new university college graduates posted to the primary teachers colleges should be given college based induction courses in how to teach at the primary school level and how to assess a lesson in a primary school.

- the primary teacher education syllabus is too congested and ways should be worked out to make some subjects electives so that the trainees can take a manageable number of subjects.

Conclusion

This has been a summary of the study and has attempted, in a nutshell, to present the problem, its purpose(s), findings and the recommendations. A detailed treatment of these aspects of the research is presented in the main text of the thesis.

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BACKGROUND TO THE STUDY

The most far reaching revolution in the 20th century may be said to be in the field of technology. Technology has revolutionized the world in many ways such as communication, warfare, health, education and many others and no country or society can afford to ignore its impact. The changes so made demand a corresponding progress in the area of technical and vocational education if the technological advancement is to be sustained and utilized to maximum advantage. The hitherto negative view regarding vocational education has to be altered for the persistence of such a negative view is a rejection of the realities of modern life.

Among the necessary prerequisites for advancement in vocational education is the creation of a capable teaching force. A capable teaching force is that calibre of teachers devoted to the ideals of excellence in their vocation. This is because the role of the vocational teacher is dual - he inculcates knowledge and skills in the learners and also prepares workers and technicians capable of utilizing their skills for the good of the society. The society, therefore, uses the skills and knowledge of vocational education to serve the course of humanity.

The preparation of teachers equipped with these attributes is a difficult task which may not be easily achieved. This is because training in vocational education requires enormous financial resources for the purchase of the required facilities and materials. In addition, especially in the developing countries, there is the problem of lack of adequately trained teacher trainers in the area of vocational education. Coupled with these is a problem of psychological nature - that is the colonial period portrayed vocational education as a substandard type which could only be exposed to the "lesser beings" - the colonized. The colonized, therefore, came to view vocational education with scorn and their attitude to this type of education is, to a large extent, negative (Sifuna, 1980).

Vocational and technical teacher education is a world-wide problem that has drawn the attention of most countries - both industrialised and developing. The quality of vocational and technical education offered in any education system depends on the quality of the teachers, teacher educators and educational administrators responsible for the implementation of the curriculum.

In 1968, the International Labour Organization and United Nations Educational Scientific and Cultural Organization initiated a comprehensive study of vocational and technical teacher education and training.[1] It was felt that the increasing recognition of vocational education to the whole development process justified a comprehensive international study of the various aspects of this particular type of teacher preparation. The study revealed various approaches to the training of vocational and technical teachers.

In France, teachers for vocational education are prepared in institutes separate from those institutions preparing teachers for the academic subjects. The institutions for the training of vocational teachers are known as Ecoles Normales Nationales d'Enseignement Professional (ENNEP). This arrangement is aimed at making the students and their lecturers devote more time to the study of vocational and technical subjects. This is with the view of giving them a good base in their areas of specialization. This arrangement demonstrates the rationally organized nature of the French teacher

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1. Unesco: Technical and Vocational Teacher Education and Training, Paris, 1973.

education system. There are specialized institutions and programmes for each category of technical and vocational teachers. Once a candidate is admitted into any of the institutions and successfully completes the course, he is virtually assured of a post. The fact that this is so in one of the most highly industrialised countries demonstrates the importance that France attaches to the improvement of technical and vocational education.

In the United States of America, vocational and technical teacher education is continuously gaining increasing importance. Being a country with a decentralised curriculum, each state in the United States of America develops programs which meet its particular social and economic needs. Though this is the arrangement, the central government may provide funds and guidelines for the various areas of education. Technical and vocational education in the United States of America is given in universities and colleges. The colleges are, generally, four-year tertiary institutions awarding the bachelors' degree.[2] The approach to the training of the vocational and technical teachers is more practical in nature. The value of a particular degree depends upon

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2. Ibid., p. 38.

the faculty, the reputation of the institution and the performance of its graduates.

Virtually all teachers are trained in general institutions in Japan. These may be colleges or universities with departments or faculties of education which award diplomas or certificates in a wide variety of subjects or they may be institutions whose primary goal is teacher training but which prepare teachers of all subjects offered in the schools. An exception to this are the vocational training institutes which train workshop instructors for both the schools and industry.

These institutions - colleges and universities - in which technical and vocational teacher preparation is given may be national institutions, local public institutions or private institutions. Degrees and certificates are awarded on the basis of a credit system - i.e. the student must have acquired a required number of course credits in each subject area.

Israel possesses a fairly comprehensive system of technical and vocational teacher preparation. The Technion Israel Institute at Haifa is designed primarily to train engineers but two programmes have been instituted which lead to qualification as technical

theory teachers. Another institution is the Technion Research and Development Foundation which is associated with the Technion Israel Institute of Technology and operates in cooperation with the Ministry of Education and Culture. As from the 1972/73 academic year, the Foundation transferred courses for the graduate engineers to the Technion Israel Institute and has only been offering courses for the preparation of vocational teachers.

In Czechoslovakia, virtually all technical and vocational teachers receive their pedagogical preparation through inservice courses. Vocational teachers who, having passed the school leaving examination and have completed secondary vocational education, teach in the apprentice schools. Both vocational teachers at the apprentice schools and the vocational training centres and technical and vocational teachers in the industrial secondary schools are hired on the basis of their technical qualifications through inservice courses. These external correspondence courses are offered by pedagogical faculties, either attached to the University institutions, e.g. the University of Prague or independent teachers in the apprentice schools and vocational training centres follow three semesters of supplementary pedagogical study at the end of which an

oral examination is taken. The passing of this examination while leading to qualified teacher status does not carry with it university status. The courses are thus, at the post-secondary level.

NEED FOR THE STUDY

Given the foregoing, the importance of vocational education is established. Vocational and technical education are at the heart of the technological world.

In independent Kenya, the need for technical and vocational education was realised right from independence. This is borne out by the government's initiative not only to offer technical and vocational subjects in the schools but also the establishment of national polytechnics (Kenya, Mombasa and Eldoret Polytechnics). It also mobilised Kenyans through the self-help (harambee) movement to establish polytechnics at the Provincial and village levels. This gave rise to such industrial and technical institutions as Western College of Arts and Technology (WECO), Rift Valley Institute of Science and Technology, Coast Institute of Technology etc.

Much as the vocational subjects were taught in the schools, they were not examinable in the national

examinations - especially at the primary school level. This trend continued until the introduction of the 8-4-4 system of education in 1985.

This official emphasis of the vocational element in the school system was accompanied by many complaints in the press as far as the availability of qualified teachers for these subjects was concerned. The Standard of the 11th November, 1984 reported a heated exchange in Parliament among the Members of Parliament as to the availability of qualified teachers in the vocational subjects. The members wanted to know where the government would get the teachers for the teaching of these subjects.

The answer by the then Minister for Education - Hon. Peter Aringo - that the teachers for these subjects were being trained in the institutes of technology did not seem to take into account the pedagogical principles, for it is well known that the institutes of technology do not teach their students how to teach.

The Kenya Times of 7th January, 1985 reported that 11,500 untrained teachers had been recruited to augment the existing staff in the primary schools. Earlier, in The Sunday Times of 16th November, 1984 it had been

reported that untrained teachers would be allowed to teach standard 4, 5 and 6 leaving standards 1, 2, 3, 7 and 8 to trained teachers.

The Standard of 31st January, 1985 carried a letter of a paremt to the editor which said inter alia:-

> ... As a parent, it was my hope that headmasters in particular, and older experienced teachers in general would help, and assist the raw recruits to teach lower classes. It is saddening however, that they instead are being allocated technical or subjects outside their competence including some subjects in the new standard VIII! Can the Ministry of Education, Science and Technology clarify this matter?

It is evident from the above that trained and qualified teachers for the new 8-4-4 system of education and especially in the technical and vocational subjects has been a major concern. Now that the 8-4-4 system of education has gone its full cycle, it is only logical to see whether this issue has been, and is being addressed by the primary teacher training institutions and to what extent.

STATEMENT OF THE PROBLEM

Due to the high unemployment rates among the school leavers in Kenya, the Gachathi Committee recommended a more technical and agriculturally oriented curriculum for Kenyans. The Committee stated inter alia.

> One of the basic requirements is therefore, for the education system to impart new economic values and goals for young people and their parents, including positive values for rural careers and local technological production.[3]

A major impetus to the vocationalization of the curriculum in Kenya's education came with the implementation of the 8-4-4 system of education which "has a heavier dose of technical education in the last two years of primary and a technical line in the post primary".[4]

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3. Op. cit., p. 11.

4. Kenya Government (Ministry of Education): 8-4-4 System of Education, Government Printer, Nairobi, 1984, p. v.

The introduction of the 8-4-4 system of education in Kenya with its unprecedended emphasis on the vocational elements of the curriculum posed several challenges amongst which were the provision of requisite teaching and learning materials and an adequately trained teaching force. An interplay among these factors - teaching and learning materials and teachers - determines the quality of the school graduate. Therefore the question of the quality of training offered to the primary school teachers meant to teach the practical subjects becomes a viable problem to be researched on.

A key element in the 8-4-4 system of education is the idea of self-reliance. The graduates of the system are expected to be equipped with the necessary skills that will make them depend on themselves after school. It is for this reason that the vocational subjects - Music, Art/Craft, Agriculture, Home-science and Business Education have been given unprecedented emphasis in post independence Kenya. These are the subjects that are expected to equip the learners with the practical vocational skills on which they will depend after school.

How well these skills are ingrained in the learners and how the learners are able to put the skills to practical use will depend on how well they were taught.

The teaching of any subject is determined by the competence of the teacher. To a large extent, this competence is determined by the type of training the teacher(s) received in their training colleges. Commenting on the question of training of teachers, the Bessey Commission (1972) had the following to say:

> Almost more important for the student teacher, however, are the methods used by the tutor and the learning process he himself undergoes. Every opportunity must be taken by the tutor to match his own attitudes and methods to those he expects from the student once he is in school.[5]

The efficiency of the teaching staff is a basic condition for the success of any system of education. No amount of reform and reconstruction can produce an effective scheme if those who teach cannot live up to the principles and ideas which inspired such reform and reconstruction.

RESEARCH QUESTIONS

The following are the research questions that were specifically drawn from the statement of the problem in order for the researcher to clearly state the variables to be investigated:-

5. Kenya Govt.: A Study of Curriculum Development in Kenya, Nairobi, 1972, p.90.

1. Do primary college tutors have experience in primary education that would enable them train a primary school teacher with confidence?

2. Are primary college tutors trained professionally to handle vocational subjects competently?

3. Are primary teachers' colleges adequately staffed in each of these subject areas?

4. Do primary teachers' colleges have adequate teaching/learning materials and other support facilities in each of these subjects to enable the tutors prepare the trainees adequately?

5. What are the tutors' and students' attitudes towards Music, Art/Craft, Homescience, Agriculture and Business Education?

6. Are the methods employed in the training of the teachers in each of the above subjects appropriate?

7. What is the rate of staff transfers in the colleges and how does this impact on the training process of the teacher trainees?

RESEARCH ASSUMPTIONS

In arriving at the above research questions, the researcher had several assumptions regarding the research problem. These assumptions are:

1. that teacher training colleges had adequate facilities, equipment and materials for the effective teaching of the vocational subjects.

2. that teacher training colleges had adequate facilities, equipment and materials to enable the students learn the vocational subjects effectively.

3. that the college administrators, tutors and students effectively utilise whatever materials, facilities and equipment available in the colleges for learning and teaching vocational subjects.

4. that some attitudinal factors towards vocational subjects had a bearing (positive or negative) on the teaching and learning among tutors and students.

5. that the student teachers had prior exposure to the subjects by the time they were admitted to the teachers' colleges.

6. that there were enough professionally trained tutors for the subjects in the primary teachers' colleges.

7. that those tutors available were prepared by their training to train primary school teachers.

8. that the tutors themselves were not adequately experienced in the area of primary education to be able to train the student teachers with insight and confidently.

9. that there is a fairly high staff transfers in the collges which affect the continuity in teaching and learning.

PURPOSE OF THE STUDY

The purpose of this study was to:-

1. Analyse the teaching/learning materials and facilities in the area of vocational education in the primary teacher's colleges in Kenya.

2. Analyse the primary school teacher trainees' and tutors' attitudes towards the vocational subjects.

3. Assess the methods employed by the tutors in training the teacher trainees.

4. Appraise the state of staffing in the area of vocational education in Kenya's primary teachers colleges.

5. Appraise the professional training of tutors in the area of primary school vocational education.

6. Analyse the tutors' experience in the area of primary education.

7. Analyse the rate of staff transfers in the subject under study.

SIGNIFICANCE OF THE STUDY

Educational provision in any society is an expensive undertaking. This provision of education by any government to its citizenry is a form of investment in the human resources of that society. Each government requires a well educated and trained reservoir of manpower for the sake of its economic and social development.

The findings of this study may, therefore, provide information that could be of major importance to the strengthening of the teacher education programs in the area of vocational education in Kenya.

Depending on the findings, the teacher training programs may be modified with a view of strengthening and consolidating the programs so that they may produce teachers who are not only competent in the area of vocational education but also flexible and responsive to the ever-changing needs of education in a continually changing society.

LIMITATIONS OF THE STUDY

In carrying out the study, the researcher was constrained by two major variables. These variables were time and finance. With regard to time, the researcher had to carry out his research as well as teach his students at university. This severely hampered him in carrying out the research within the optimum time limits envisaged by the researcher.

The finances provided by the Dears Committee of Kenyatta University were small in amount and far between in their availability. This made the researcher not carry out his research as scheduled.

DELIMITATIONS OF THE STUDY

The researcher used only eight (8) primary teachers' colleges instead of the twenty one (21) government primary teachers' colleges. This was in an effort to cut down the requirements of the research - in terms of time, materials and finance.

The study was carried out among government primary teachers' colleges only. This was on the assumption that they have had a more or less equal allocation of

resources and staffing from the government - while the private teachers colleges may have their own unique problems which could complicate the study.

The newly established government primary teachers colleges - Bondo, Baringo, Tambach, Murang'a, and Narok and Garissa were not included in the study because being newly established, they may not have acquired adequate required facilities and established their own ethos as the old colleges.

For the purpose of uniformity, the study confined itself to only one form of teacher training - the preservice teacher education program - and excluded the inservice teacher education program.

The researcher also excluded the diploma teachers' colleges - Kagumo, Kenya Technical Teachers' College, the then Kisii Teachers' College and the Kenya Science Teachers' college - since these offer a different level of training from the one being studied.

Only a few tutors and teacher trainees were used in the study. This was also for the purpose of economy in time, materials and finance.

DEFINITION OF TERMS

The following terms have been used in this study and should be understood as defined below:-

Attitude: Referred to a relatively enduring organization of interrelated beliefs that describe, evaluate and advocate action with respect to an object or situation with beliefs having cognitive and behavioural components (Rockeach, 1969).

Curriculum: Referred to the whole body of learning experiences and content offered by an educational institution. It involves all planned school activities including clubs, organized play, athletics, drama etc.

Education: Referred to the sum total of all the process by which a community or social group preserves and transmits its culture from one generation to another.

The 8-4-4 System ofEducation

Kenya's system of education which is terminal at each stage and which is characterised by having eight (8) years' primary education, four (4) years secondary education and a minimum of four (4) years of university education.

Inservice: Referred to going on or continuing with a course of study while the trainee is actively involved in the service of the profession or vocation for which he is being trained. In Kenya's teacher education programs, this method is designed to train untrained teachers as they continue teaching as well as appraise the trained teachers in new developments in the field of education.

Preservice: Referred to undergoing a course of study related to a particular job, vocation or profession before one is allowed to join and serve in that job, vocation or profession actively.

PTE Referred to Primary Teachers' Examinations which is administered by the Kenya National Examinations Council at the end of the two-year primary teacher education course.

Scope: Referred to the breadth and depth of a school instructional program. It also refers to the range of content areas and the depth of treatment each area is accorded at the level it is being taught.

Specialised Rooms:-

Classrooms such as homescience rooms, Business Studies rooms, Music rooms and workshops which are specially constructed and equipped due to the specialised learning that takes places in the rooms.

Vocational Subjects:

Referred to those subjects or disciplines in the school instructional programs the content of which is related to specific careers. As the children learn these subjects, they are exposed to some elements of a vocational nature but they may not necessarily learn about the details of each of these vocations like it may be done in the

specialized training institutions such as commercial colleges, music schools or polytechnics.

SUMMARY

This chapter has been concerned with defining the problem and putting it in the proper context for the benefit of both the researcher and the reader. The need for the study being undertaken has been established as well as recognition of the assumptions on which it was based. Several questions guided the researcher in his work and have been set out in the chapter.

Several limitations and delimitations of the research as well as a definition of significant terms of the research have been pointed out in a recognition of the influence these may have on the understanding of the research by the reader as well as establishing the scope of the research.

A perusal of relevant literature related to the research is undertaken in the following chapter.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

INTRODUCTION

The central concern in this study is the quality of training that the teacher trainees in Kenya's primary teachers' colleges are receiving in the area of the practical subjects under the 8-4-4 system of education. A major aim of the 8-4-4 system of education is to produce people with certain skills that are functional to them in their immediate lives and also which can help in the positive transformation of their societies.

At the primary schools, the subjects that are expected to lay this foundation in the learner are the practical subjects - Agriculture, Art/Craft, Music, Business Education and Homescience. These are the subjects through which learners will be able to acquire functional skills that they may utilize in their lives to be self-reliant. At the primary schools, these are the subjects that may loosely be referred to as vocational subjects.

As pointed out earlier, vocational education is an area that is receiving world-wide concern - both in the developing and developed countries. This concern with vocational education is partly tied to the recognition of the part technology has played in the development of nations during this century. It is also partly due to the high level of unemployment among the educated youth and the perception that the learners now need an education that is terminal in nature at each level of the educational ladder. This terminality in the educational system can only be realized through a deliberate transformation of the various curricula such that the subjects and content of the curriculum centre on the provision of saleable skills to the learners. These skills will put the learner in a better position for him to utilize them to earn his living - either through paid or self employment.

This being the case, at a functional level, the developing countries perceive vocational education as a means of equipping the youth with the skills that will enable them to be self-reliant in terms of employment and the provision for his day to day needs. This would greatly reduce the pressure on the government to provide employment to the school leavers. These subjects are viewed as a kind of panacea to not only the social

problem of unemployment but also the technological development of a country. They are therefore, a viable area in which the governments concerned should invest. The investment in this area of the curriculum is by way of provision of necessary materials and facilities in the schools and colleges, payment of good salaries and allowances to the staff and, more importantly, the need to train adequate staff in this area. This adequacy of staff is both in the qualitative and quantitative sense.

BACKGROUND TO LITERATURE REVIEW

Little exists in terms of specific authoritative literature on the subject of primary school vocational teacher education. However, there is some literature that is general in nature and which is relevant to the problem under study. Literature also exists in the individual subject areas that may be collectively referred to as vocational subjects - especially in the area of Agriculture. It is in the light of this scenario that the literature is reviewed.

As stated earlier, the successful implementation of any educational change depends on the quality and commitment of the teaching force available. There is a strong move for the developing countries to provide basic education for all by at least the end of this century.

The viability of this will depend on the quantity and quality of the teachers available. As Avalos (1991) states, what may be forgotten when this recommendation (of universal primary education) is made is that the right of every young person to education is not just the right for him to sit on a bench in front of a teacher for a given number of years but the right to become an educated person with the skills to contribute usefully to society. The quality of teachers in this respect becomes as much a requirement for universal basic education as does the provision of teachers in sufficient numbers.[6]

Often we hear sentiments to the effect that education in the developing countries is deteriorating (Sheefer, 1990; Heyneman 1989). This sentiment is attributed to various factors. One of the factors is economic in the sense that as demand for education is rising, expenditure on the same is being reduced. This increase in the number of learners with a corresponding decline in the financing of education has given rise to the problem of inadequate tuition, less teaching and learning materials and less facilities for effective optimum teaching and learning to take place.

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6. Avalos B.: Approaches to Teacher Education: Initial Teacher Training, Commonwealth Secretariat, London, 1991 p. 5.

Besides the economic factors, several other factors affect educational effectiveness and teacher education is one of them. For example, Avalos (1991) found out that teacher education curriculum in Papua New Guinea was so fragmented into too many small discrete subjects that it forced the teacher training colleges - preparing generalist teachers - to prepare teachers for many different subjects in too little time. During their practical teaching, they were forced to teach all these subjects in lessons that rarely lasted more than twenty minutes.

Against the above background, there is the need to address the question of the training of teachers. In Kenya, this becomes even more imperative bearing in mind that the 8-4-4 education system is a major change in Kenya's educational development since independence. It involves not only a structural overhaul of the education system but also a massive re-organization of the curriculum with emphasis on the hitherto overlooked subjects. This aspect, therefore, requires that much as there is a re-organization of content in the education system, there is need to deliberately change the attitude of the parents, teachers and pupils towards the hitherto over-looked subjects which, incidentally, are also the subject of this study. The teacher training procedures,

the attitudinal dispensation to these subjects among both tutors and student - teachers and the provision of appropriate teaching and learning materials are important components in the moulding of a well grounded teacher in the area of vocational education.

LITERATURE RELATED TO TECHNICAL AND VOCATIONAL EDUCATION IN AFRICA

During the period of British rule in tropical Africa, policy statements from the colonial office in London and recommendations of studies made by philanthropic societies repeatedly asserted that one of the major aims of formal schooling for Africans should be the development of economically and occupationally useful skills. In the context of the African economy, the most immediately applicable occupational skills were those related first, to agriculture then commerce and industry.

Education linked with productive work seems to have become an accepted philosophy of African countries. This is partly in keeping with world-wide trends as the issues of employment opportunities for, and the employability of, the school leaver is a problem common to all countries. The major impetus has, however, been the search for relevance in African education involving the

need to make schools and the educational system more firmly integrated into the societies they serve. Very important evidence that African countries have accepted the doctrine of Education and Productive Work can be seen. For example, the Conference of African Ministers of Education held in Lagos in 1976 proposed the following among its major declarations and recommendations:-[7]

(i) ... education should not only be made responsible for passing on values and knowledge to the younger generation but should also produce fully conscious citizens and future productive workers in a dynamic context.

(ii) (African states should) provide a new form of education so as to establish close ties between school and work; such an education based on work and with work in mind should break down the barriers of prejudice which exist between manual and intellectual work; between theory and practice and between town and countryside.

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7. Conference of Ministers of Education of African Member States, Lagos, 1976, Final Report, Paris, Unesco, 1976, p. 98.

(iii) (African states should) establish suitable links between education, training and employment activities; maintaining very close liaison with the environment or the local community as all-round development demands.

(iv) Education should lead on to a vocational training in conformity with the problems of management, administration and the organization of public utilities should have its place in the curricula.

(v) African countries should consider the working out of new standards of administration and management, even to the extent of making each education institution a production unit.

(vi) Productive practical work (should) be generally introduced in schools offering general, technical and vocational courses whether at primary, secondary or higher level.

The above appear as broad general guidelines on vocational education in Africa. More specific objectives are found in documents published by individual countries.

According to Kisanga, "Education for Self Reliance" in Tanzania has the specific objective of the "promotion of co-operation, creativity and critical thinking and self-confidence, relevant knowledge related to agriculture, loyalty to state, egalitarian values, unity of manual and mental labour".[8]

Writing about the inclusion of education and practical work in present day educational policies of Ghana, Menka summarised its specific objectives as "to predispose the pupils to various types of vocations."[9]

A Unesco summary of questionnaire returns from a number of African countries extracted the following specific objectives for vocational education:-

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8. Kisanga, M.E.: "Education and Productive Work in Tanzania" Second NEIDA Regional Consultative Meeting, Dakar 5-9 June, 1979.

9. Menka, A.F.: "Country Experience in Education and Productive Work" NEIDA Regional Consultative Meeting, Dakar, 5-9 June, 1979.

- to ensure that young people get adjusted to their environment and check rural exodus (Mali).
- to prepare young people for life in a continuously changing environment (Botswana).

- To develop a healthy attitude towards manual work and practical action necessary for the transformation of the physical and social environment (Zambia).

- To offer young persons the means of access to and a motivation for engaging in technical and professional fields (Botswana, Mali, Ghana).
- to prepare the young for active life (Congo).
- to incite in young persons the desire for self improvement (Ghana).

- To create and develop interest in professional and technical studies (Zambia).

- to reduce unemployment (Mali).

- to transform the process of education by making it more closely related to the needs of the country (Swaziland).

- to develop in young persons the skills of observation as well as the coordination and control of muscles (Zambia).

- to initiate the learner to a vocation (Zambia).

- to inculcate a spirit of perseverance and an appreciation for work well done (Zambia).[10]

In addition to the efforts of national governments, African educationists have also tried to work out suitable specific objectives of education linked with productive work. For example, Quansah (1980) has summarised such specific objectives which are mainly of the attitudinal dimension as follows:- devotion, hardwork and dedication to duty; enthusiasm for work; cooperative attitude to work, care of public and other people's property, honesty in dealing with people, respect towards other people, self reliance in working and solving problems; a probing, questioning and curious mind; appreciation of work as good in itself and as a means of

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10. UNESCO/NEIDA: Education and Productive Work in Africa, Dakar, Oct. 1982, p. 11.

living.[11]

The objectives of vocational education just outlined above show a number of traits. First, they tend to be closely related to each country's development strategies and conception of education. For example, Tanzania places more emphasis on practical production in terms of the school child producing as a means of generating funds than do most other countries.

Second, the objectives have economic and social as well as purely pedagogical rationales. Thus, some of the objectives seek to ensure that the learner becomes a living-earning being. Some stress his integration with his immediate environment. Others stress vocational education as learning which goes beyond formal schooling to non-school going sector.

Third, the Bloom tripartite objectives of education are combined in the African conception of vocational education. This is seen in the combination of the cognitive, affective and psychomotor aspects in the enunciation of the national objectives.

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11. Quansah, K.B.: "The Interaction Between Formal and Non-Formal Education in the Development of Skills and Attitudes" in Yoloye and Felchsig (eds) Educational Research for Development DSE (1980), p. 245 - 270.

Fourth, the objectives all seem to be working towards the realization of an overall goal of transforming the African and his society through an educational program that is more closely linked with the real life of work. Work in this case goes beyond paid employment to making the educated African a useful individual; someone who is useful to himself and the society by his intellectual and concrete contributions to his personal growth and the improvement of the entire society.

In the year 1952, the Binns Report, in a discussion of appropriate educational goals for schools in Africa stated:

> a major aim of education in the territories (British tropical Africa) can ... be considered primarily in relation to an agricultural environment in which men and women can work .. [12]

Shortly after the conclusion of World War I and in response to the American Baptist Foreign Missionary

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12. Report of the East and Central African Study Group (The Binns Report): African Education: A Study of Educational Policy and Practice in British Tropical Africa, The Nuffied Foundation and Colonial Office (Oxford: OUP/1952, p. 166).

Society's urgings for a survey of formal schooling in Africa, the Foreign Missions Conference of North American obtained financial backing from the Phelps-Stokes Fund, an American philanthropic foundation to make an on-site field analysis and assessment of the educational programs in Africa. The report of the study group which visited East, Central and South Africa made remarks concerning educational aims that closely resembled those of the Binns Report:-

> The vast physical resources of Africa as yet hardly touched by either the African or European together with the almost abject poverty of the Natives emphasize the importance of agricultural and industrial skills as a (necessary) objective in education.[13]

From a reading of documents such as the Binns Report and the Phelps-Stokes Report, it becomes evidently clear that occupational education was a recurrent theme of British colonial policy statements on African education throughout the first half of the twentieth century. As many African countries gained their independence in the late fifties and early sixties, they carried on the theme of occupational education as a legitimate and necessary

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13. Thomas Jesse Jones (ed): Education in East Africa. New York: Phelps-Stokes Fund, 1924, p. 1-2.

fundamental goal of formal education. In addition, a new and emphatic stress was placed upon the role of education in the improvement of a society's technology and its social organization. Education came to be widely regarded as not only a social service for personal enlightenment and socio-occupational mobility but also as an essential and vital ingredient for the stimulation of a society's economic growth and economic diversification. Indeed, this is what was viewed as the role of education when, in 1965, the Kenyan government stated:

> At Kenya's stage of development, education is much more an economic than a social service. it is our principal means for relieving the shortage of domestic skilled manpower and equalizing economic opportunities among all citizens.[14]

One of the strongest expressions of political endorsement of the concept of education as an investment came from the educational conference of African states held in Addis Ababa (Ethiopia) in 1961. The Conference which came about through Unesco General Conference resolution was intended by its planners to provide

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14. Kenya, Republic of: African Socialism and Its Application to Planning in Kenya, Government Printer, Nairobi, 1965, pp. 39-40.

African states with a forum to assess educational need, to formulate educational goals and to establish educational priorities both short-term and long-term on a continent-wide basis.[15]

In retrospect, the Addis Ababa Conference has been recognised as a milestone in the development of educational policy in Africa. The "Outline for a Plan for African Educational Development" which emerged from the conference has served as the yardstick against which African governments have measured their education achievements in the sixties and early seventies. As a historical document, the Conference report represents an important expression of the aspirations of African leaders for educational expansion. With regard to the priorities for reform the Conference delegates unanimously endorsed the following resolution as one of their recommendations:

> That, in Africa, at its present level of development, the highest priority in education should be accorded to ensuring that an adequate proportion of the population receives at secondary and

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15. Unesco: Final Report, Conference of African States on the Development of Education in Africa, Addis Ababa 15-25 May, 1961 (Paris, Unesco: 1961) p. V.

> post-secondary levels the kind of skills required for economic development.[16]

In assessing pressing needs for curricular reforms, the Addis Ababa Conference report underscored the point that economic growth and diversification would require a greatly expanded reservoir of manpower with sophisticated technical skills and abilities. One of the chief sources for the development of technical skills and abilities would be technical and vocational curricula of the formal school system. The Final Report declared:

> ... vocational and technical education must be reinforced at various levels. In addition, primary and secondary school students must be predisposed to manual occupations. In the general program of primary schools, certain prerequisites in science, mathematics and manipulative skills must be taught. In this connection, illustration was given (in the conference preceedings) of the reform of education in one country after the primary school state towards more practical directions through the introduction of such courses as commerce, agriculture, technical and craft training and housecraft.[17]

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16. Ibid.: "Outline of a Plan for African Educational Development". p. 17-18.

17. Ibid., "Report" p. 6.

With regard to vocational and technical education; the Report concluded:

> In view of immediate needs for technical manpower, accelerated inservice training courses are required. Vocational education is necessary to train individuals with "polyvalent" abilities able to adopt to changing conditions. Expanded programs of technical and vocational education at all levels are mandatory if the urgent needs for qualified specialists to man existing and projected institutions are to be met.[18]

Here then was a clear African manifesto on behalf of technical and vocational education and it has been echoed and re-echoed at the national levels.

In 1963, a commission was appointed by the Nigerian government to study how Nigerian technical education could be improved. It was expected to visit several foreign countries in order to identify those aspects of their technical and vocational education system which could be adopted by Nigeria. The Commission members visited Sweden, England, the United States of America and Holland. In its report, the commission, among other recommendations, stated that teachers should be formally trained craftsmen with appropriate industrial experience and specific pedagogical training (emphasis mine). The report lamented the scarcity of instructors and

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18. Ibid.

supporting staff. It also recommended that those teachers whose technical and pedagogical skills were found lacking should be given further training to upgrade them in those areas of weakness.[19]

In 1966, the Annual Report of Zambia's Ministry of Education noted that:

> a great deal of careful thought and planning is necessary to devise ways and means of diversifying the syllabus in order that the country's manpower needs may be reached and education given made more relevant to the lives of the pupils.[20]

Three years later, a publication from the office of the President of Zambia made even more specific prescriptions for developing technical and vocational programs in Zambian schools:-

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19. Report of the Comparative Technical Education Seminar Abroad and Recommendations for a National Plan of Vocational and Technical Education in the Republic of Nigeria. Nigeria, 1966. pp. 33 - 34.

20. Zambia, (Ministry of Education): Annual Report, 1966. Lusaka, Government Printer, 1967, p. 32.

> The introduction of practical subjects, such as farming, carpentry, typing etc. into primary and secondary schools should be accomplished as soon as possible.[21]

Various studies in the area of technical and vocational education reveal an interplay of several factors in the operation and development of this type of education not only in Africa but also elsewhere in the world.

Osuala, (1976)[22] undertook a study of the development of technical and vocational education in Nigeria with implications for the meeting of intermediate manpower needs. In this study, he notes that the major impediment to the development of technical and vocational education in Nigeria was the historical emphasis in literacy education as opposed to technical and vocational education by the British Colonial administration. Coupled with this was the fact that there was a delay by the Nigerian independent government in accepting the need for a nationally planned technical and vocational education. In the context of these factors, he felt

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21. Zambia (Office of the President): Zambia Manpower, Lusaka, Government Printer, 1969.

22. Osuala, E.C. 'The Development of Technical and Vocational Education in Nigeria with Implications for Meeting Intermediate Manpower Needs', Ph.D. Thesis, University of Missouri, Columbia, 1976.

there was need for the expansion and re-organization of technical and vocational education in Nigeria to prepare skilled workers to meet the needs of an expanding economy.

The study, among others, was concerned with finding out the characteristic features of the Nigerian education system and the relationship between the various sectors of the system. The researcher wanted to find out the nature of the teaching staff in the area of vocational and technical education in Nigeria. He was also concerned with changes or directions necessary for the improvement of technical and vocational education in Nigeria and what could be done to achieve the needed changes.

At the time of the study, one of the major hinderances to the optimum development of both primary and secondary education in the country was the serious shortage of qualified and competent teachers. In order to resolve this problem, it was recommended that sixty percent of the new teachers for secondary education be trained in the areas of mathematics, science and technology.[23]

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23. Nigeria, Federal Republic of: Second National Development Plan, 1970-1974, Lagos, Federal Ministry of Information, 1970, p. 235.

Among the findings of this study was that one major constraint to the optimum development of education in Nigeria was the shortage of qualified staff. The National Teachers' College, Yaba, was the only technical teacher training institution in Nigeria. As far as the unemployment problem was concerned, Osuala noted that unemployment among the primary school leavers constituted 70% of Nigeria's unemployed persons.[24] He, therefore, concluded that additional resources needed to be channeled into vocational training for students at the primary level in order to reduce the flow of untrained persons into the pool of the unemployed.

It is clear from Osuala's study that vocational and technical education is given high priority in Nigeria - especially as it relates to the question of reducing unemployment among school leavers and the development of skilled manpower for industry. Inspite of the above, there is the problem of training adequate teachers for this area which has greatly impaired the development of technical and vocational education in Nigeria.

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24. Osuala, E.C.: Op. cit., p. 293.

Christensen (1972)[25] undertook a study in occupational education in Zambia. He focused on the obstacles to the development of technical and vocational education programs in the country from 1885-1970. His was a historical analysis of the factors which imbeded the development and expansion of formal occupational education in Zambia during the period between 1885 through 1970. The researcher's purpose was to analyse the historical development of technical and vocational education programs in an effort to explain the apparent contradictions between leadership statements and the actual accomplishments in the field of occupational education. The key question was why technical and vocational education programs had not developed to the extent that one might have expected especially given the factors of untapped natural resources, the support of the British colonial authorities for occupational education and the post-independence drive for economic growth and technological improvement.

The study found out that the shortcomings of occupational training programs which were developed during the colonial administration were inherent to the

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25. Christensen J.E.: 'occupational Education in Zambia: Obstacles to the Development of Technical and Vocational Education Programmes in Zambia 1885-1970,' Ph.D Thesis, University of California, Los Angeles, 1972.

colonial situation. Moreover, the colonial government prescribed a "practical" curriculum which emphasized handicrafts and agriculture. The colonial masters' emphasis upon mass education to almost the exclusion of secondary and higher educational opportunities only served to aggravate the popular demand among Africans for a secondary educational experience that was akin to the Europeans'. The African masses came to view the emphasis on practical subjects by the colonial authorities as a ploy to keep Africans to the perpetually disadvantaged status of unskilled manual labourers. This suspicion of practical education by Africans hardened into a strong conviction that any form of education which differed from the academic schooling which Europeans provided for their own children was inferior education meant to institutionalize the master-servant relationship between the Europeans and the African masses. Thus, it came to be that the British secondary grammar school was the educational institution to which African aspirations became hooked.

In addition to the negative attitudes towards the technical and vocational education outlined above, there were other problems associated with the uncertain source of supply of qualified teachers, the degree of coordination possible between training and employment and

the question of maintenance of adequate funding over a long period of time.

As Stannard (1970) has observed, one major reason for the decline of technical and vocational education before 1970 was that no substantial step had been taken by the government to train technical and vocational teachers to maintain existing technical and vocational institutions, let alone prepare a cadre of teachers for future expansion.[26]

Christensen has clearly shown that the problems of vocational education are rooted in the colonial education structure and policies. The demarcation of education on racial lines with the African education laying emphasis on the practical subjects left a lingering suspicion among the Africans that this was a substandard education which was designed to keep the African perpetually dependent and subservient to the whiteman. This crystallised into a hardened attitude against this type of education. This negative attitude has found its way in the reception of vocational education even in the independent African states. In addition, there are the

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26. Stannard J.: Secondary Level Teachers: Supply and Demand. (Ann Arbor: University of Michigan), 1970, p. 101.

problems of policy and planning which have tended to undermine the importance and development of vocational education - especially in as far as the provision of adequate resources and finances is concerned as well as in the area of provision of an adequate pool of well qualified and motivated teachers in the area of technical and vocational education.

Opoku-Agyeman (1976)[27] content that the major problem facing Ghana is the lack of trained manpower in the technical fields. In a study whose main concern was to suggest some steps to channel the knowledge acquired from high school to viable uses, Agyeman argued that there was no guarantee that every school leaver would get a job and so there was need to direct students' aspirations right from the early days of schooling to specific vocations in life. In this line, he noted that the teacher education program underwent the process of re-organization to move it away from the general initial training which was traditionally provided and emphasize the training of specialist teachers who could confidently and effectively cope with the diversified programs that were being introduced into the pre-university educational

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27. Opoku-Agyeman, R.: 'The Concepts of Career Education and Their Implications for Ghana,' Ph.D. Thesis, University of Pittsburgh, 1976.

system. In this direction, a variety of specialist courses were started after the 1973/1974 academic year. These courses were in Mathematics and Science, Art/Crafts, Vocational
subjects, Music, Ghanian Languages and Homescience.[28]

As a result of a review of the teacher training program carried out by an ad hoc committee on teacher education convened in April, 1975, the new structure of teacher education was modified to provide teacher education at three different levels to commence in the 1975/76 academic year:-

(i) Four-year post secondary level teacher training colleges which train teachers for junior secondary schools.

(ii) Three-year post secondary level teacher training colleges which train teachers for junior secondary schools.

(iii) Three-year post advanced level colleges which train diploma teachers for the senior secondary schools and the post-secondary level training colleges to supplement graduates from the universities.

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28. Ibid., p. 35.

The three levels of teachers trained under this re-organized system were expected to be teachers who had the requisite competence to handle the pupils at the level they were teaching and competent enough to lay the foundation for, and generate interest in certain trades and vocations by teaching such related subjects and skills (emphasis mine).

The training colleges offering a three year post junior secondary (middle) school program were grouped into three categories with specialization in one of the following areas:-

Group I - Maths, Science, Agriculture/Home Science

Group II - Social Studies, English, Ghanian Languages

Group III - Practical Vocational Subjects, Home-science, Commercial Subjects, Art, Music, Agriculture.[29]

The study by Opoku-Agyeman reveals the central role played by the teachers in curriculum reform and implementation. Any curriculum reform must take into

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29. Ibid., p. 36.

account the question of training relevant teachers in order to make the implementation of the reform package feasible. The training involves an infusion of sufficient funds in the system which will cater for the development of appropriate teacher education programs as well as provision of the relevant facilities and materials for the success of the system. It will also involve the re-alignment of attitudes to be in concert with what is expected of the teachers in the new curriculum. Without this, the reviewed curriculum is bound to hit a dead end.

Nkungula (1980)[30] undertook to develop a possible program for technical (vocational) education which could be implemented in Malawi for the purpose of providing a greater opportunity to the majority of young people in order to meet their needs and aspirations. The objectives of the initiator of the program was to present a model for vocational technical education for Malawi which would assist high school graduates in acquiring job skills that would enable them to earn a living. This would be by way of both self employment and paid employment.

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30. Nkungula, Tommy Harrison: 'Development of a Model of Technical Education for the Country of Malawi' Ed. D Thesis, Western Michigan University, 1980.

In his model, Nkungula suggested that there should be programs in Agriculture, Business and Office Practice, Construction, Manufacturing and Transportation. Included in each program would be a course on how to repair equipment.[31]

Nkungula surmised that the "success of the whole vocational/technical education program will depend on the availability and quality of instructors."[32] He suggested that the instructional staff in this program be in two categories - those who would teach general studies such as Biology, Chichewa (national language), English, Maths and Social Studies; and those who would teach the vocational/technical subjects. This would be in an effort to give the teachers more time to delve in the area(s) they had been assigned to teach. In addition, Nkungula stressed the importance of the availability of necessary facilities and materials for the optimum teaching and learning of these subjects. These facilities were to be organized in a manner designed to enhance the learning of the vocational and technical subjects suggested above. As he stated:

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31. Ibid., p. 129.

32. Ibid., p. 133.

> The development of vocational and technical education programs has very little value unless adequate facilities are provided and organized in such a way as to enhance and improve learning.[33]

From the above, it is clear that availability of facilities and materials is not in itself an assurance of the success of an educational program. These facilities and materials can only facilitate the success of the system depending on how they are used. The organization and use of the facilities and materials depends on the creativity and training of the staff using such materials and facilities.

In addition to the above, Nkungula also drew the attention of those concerned with the planning and implementation of technical and vocational education to the need to have adequate funds for salaries, supplies, maintenance, insurance and training. He emphasized the necessity of this financial component in the technical and vocational education programs if they had to succeed and be sustained.

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33. Ibid., p. 134.

Okoro (1979)[34] attempted to develop a model for the evaluation of vocational teacher education programs in Nigeria. In doing this, he recognized the fact that "vocational teacher education, irrespective of the objectives of the programs, required that the students be admitted and that staff, physical facilities, equipment, library resources, course offerings, instructional methods ... be provided."[35]

Among the problems cited by the author as being responsible for the stagnation of vocational education in Nigeria were such factors as unfavourable attitudes. This contention is supported by Ozoro (1973) who has commented that Nigerians still retain the view that human beings can be divided into two groups.

> Those capable of a life of reason and those capable of only desire and work.[36]

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34. Okoro, O.M.: 'The Development of a Comprehensive Program Evaluation Model for Evaluating Vocational Teacher Education Programs in Nigeria,' Ph.D. Thesis, University of Minnesota, 1979.

35. Ibid., p. 11.

36. Ozoro, O.: "Introducing Technology into Nigerian Secondary Schools", in West African Journal of Education, xvii(2), 1973, pp. 241-252.

The first group are usually sent to grammar schools while the second group, who are regarded as inferior, are sent to vocational training centres. This negative attitude towards vocational education is attributed to the country's initial contact with Europeans. Okeke (1964) has summarised this negative attitude thus:

> To push a pen behind an office desk is the dream of an educated Nigerian. Anything less is held to be derogatory and below his dignity. The Nigerian clerk tries to imitate the European boss who works with him in the office. He has never seen him dirty his hands and why would he dirty his own?[37]

The other factors that were identified as being partly responsible for the lucklustre development of vocational education in Nigeria were financial limitations and lack of qualified teachers.[38]

LITERATURE RELATED TO VOCATIONAL EDUCATION IN KENYA

The importance of vocational education in Kenya goes back to the pre-independence days. In independent Kenya, the importance of vocational education was realized

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37. Okeke, P. Unduaroh: "Background to the Problems of Nigerian Education" in Ikejuani (ed): Nigerian Education, Lagos, Longmans of Nigeria, 1964, pp. 8-9.

38. Okoro, op. cit., pp. 63-65

immediately after independence. The first education commission in independent Kenya (Ominde, 1964) noted the need for the development of vocational skills for farming and related self-employment as essential not only for economic but also social reasons. The Sessional Paper Number 10 of 1965, touching on this subject, noted that "the shortage of skilled manpower cannot be cured by general education alone. Trades must also be taught ...[39] The Ndegwa Commission (1971) observed:

> the diversification of the secondary school curriculum towards a more practical bias is of utmost importance and we note that a small number of schools have included Agriculture and Industrial Arts in their general studies.[40]

The 1962 economic survey seems to have not seen an urgent need for the inclusion of purely vocational education in the primary schools. It was of the opinion that the purpose served by such vocational aspects in the primary school curriculum could be taught in the elementary science courses. The survey pointed out that:

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39. Kenya Government: African Socialism and Its Application to Planning in Kenya, Government Printer, Nairobi, 1965, p. 40.

40. Kenya Government: Report of the Commission of Inquiry (Public Service Structure and Renumeration Commission) Government Printer, Nairobi, 1971 para 429 p. 159.

> Most of what is worth learning in the usual school farming lessons - excepting the few schools with enthusiastic teachers - would be better learned in simple science courses. Such courses could include lessons on conservation and similar topics that would later be of importance to Kenya citizens - whatever their occupations.[41]

This survey went on to state that it was not advisable to make primary education related to specific jobs. It stressed that at this stage, the objective should be primarily that of teaching numbers, the bare essentials of geography, history and science and ... a common national language.[42] In this context, therefore, the economic survey remained silent on the question of vocational education in primary teacher education curriculum in Kenya.

However, the 1966/70 Development Plan recognized the place of, especially, agricultural education in the economic development of the country. It stated quite clearly that since Kenya was primarily an agricultural country, the schools:

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41. Kenya: The Economic Development of Kenya: Report of an Economic Survey Mission, Government Printer, Nairobi, 1963, p. 161.

42. Ibid., p. 161.

> must equip the majority of students for rural and, in particular, agricultural activities. The primary school curriculum must therefore, be studied and revised continuously in order to enhance rural life. ...[43]

Although the plan was quite succinct on the question of agricultural education in the life of the primary school pupil, it remained conspicuously quiet on the type of training the primary school teacher had to undergo in this area in order for him to be in a position to impart appropriate knowledge and skills to the learner. Admittedly, the plan, expressed the need to raise the quality of primary school education mainly through stressing the need to train the large number of untrained teachers as well as training more fresh teachers to meet the needs of an expanding primary school sector. However, it was not explicit on how this would be done in the area of the pre-vocational education that was now starting to receive some attention from the government.[44] This concern with the quality of primary school teachers was to be re-emphasized in the subsequent development plan (1970-1974: 452-466; 466-467) and the

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43. Kenya: Development Plan (1966-1970), Government Printer, Nairobi, p. 306.

44. Ibid., pp. 310 - 311.
The subsequent development plans - 1970/74 and

1974/78 Plan. The 1974/78 Plan also emphasized the need for the technical-ization and vocationalization of the school curriculum. They stressed the need to have an increase in secondary schools offering practical studies in Agriculture, Commerce, Industrial Arts and Homescience.

The 1974-1978 Development Plan was quite clear on the question of the practical element in the area of primary teacher education. It envisaged that as from 1974, the government would reinforce its policy of making the curriculum of all parts of the educational process more practical. In the area of primary teacher education, it stated that:

> Specifically, it will require entrants to P1 course to have undertaken successfully at least one practical subject at secondary school ... On the basis of this improved training program, the new outputs of P1 teachers will themselves adopt a more practical approach in the primary school classroom.[45]

The 1984/88 Development Plan recognized the influence of the attitudes of both the parents and students on the perceptions of education.

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45. Kenya, Republic of: Development Plan (1974-1978), Government Printer, Nairobi, 1973, p. 415.

It was categorical that the attitudes of both the parents and students to formal education as a route to modern sector employment needed to be changed since many of the school leavers would be forced to look for employment in the informal sector, non-urban activities, especially small scale agriculture and rural non-farm activities. It also recognized the relationship that exists between the availability of resources and the quality of education offered in any education system. It warned that due to the scarcity of government resources available, it would be unwise to have unrestricted expansion of the education system since this would have an adverse effect on the quality of education offered.

On the question of primary teacher education, the plan noted that the pupil/trained teacher ratio had been worsening and the introduction of the 8-4-4 system of education would aggravate the situation. It stressed the emphasis that would be laid on the teaching of Business Education, Agriculture and technical subjects in order to strengthen them at the primary school level. Generally, the projected enrolments in primary teacher education during the plan period were expected to increase from 10425 in 1983 to 11296 by 1988 - requiring a total tutor force of 755.[46]

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46. Kenya, Republic of: Development Plan (1984-1988), Government Printer, Nairobi, p. 150.

This concern with the raising of the quality of education and, especially, of equipping learners at all levels of the educational ladder with practical skills was re-emphasized by the Sessional paper No. 1 of 1986.[47]

The Kamunge Report (1988) noted that vocational education broadly includes programs of study and training in technical and other applied courses which provides both basic and specialised skills related to a career or a vocation. This form of education is offered as part of the 8-year primary and 4-year secondary, education to lay the foundation for training and employment after school. It is designed to provide pupils in the primary and secondary schools with pre-vocational skills. The report went on to outline the objectives of this study type education as to lay a foundation in vocational skills required for socio-economic development; expose the students to scientific and technological trends, skills and ideas; to develop in the learner entrepreneur skills and develop appropriate vocational attitudes, initiative and creative thinking oriented to work. It is also

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47. Kenya, Republic of: Sessional Paper No. 1 of 1986 on Economic Management for Renewed Growth, Government Printer, Nairobi, 1986 p. 12 para 2.17.

designed to inculcate skills which are applicable to various trades, vocations and professions and develop appreciation for the dignity of manual labour.[48]

To this end, the 8-4-4 system of education has developed vocationalised education through a practical curriculum at each level of the education system. This is designed to prepare the youth for various occupations. The Kamunge Report however, noted that:

> "vocational and technical training institutions require fairly expensive equipment to teach properly and to maintain quality and relevance in their programs of training ... The Working Party learnt that some technical equipment were not properly maintained and, in others, spare parts were not available ..."[49]

The Working Party therefore, recommended that trainers and support personnel be given inservice training on proper servicing and maintenance of

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48. Kenya Republic of: The Presidential Working Party on Education and Manpower Training for the Next Decade and Beyond, Government Printer, Nairobi, 1988, p. 35.

49. Ibid., p. 42.

technical equipment and tools in their institutions. On the question of teachers and instructors, the Working Party noted that:

> there has been a shortage of trained teachers and instructors for vocational and technical subjects at all levels of education in the country ...[50]

More so, many of those who were available did not have training in pedagogy. So the Working Party recommended that:

> technical instructors be trained in pedagogy and be given regular inservice training to keep abreast with changing technologies.[51]

The 1989-1994 Development Plan reinforced the need for a practical curriculum in our educational institutions by stating that with the introduction of the 8-4-4 education system, it was hoped that the transition from formal education to general and specialised training would be more synchronised and made as smooth as possible. The achievement of this aspect in our education was envisaged through the introduction of vocational and technical

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50. Ibid., p. 43.

51. Ibid., p. 44.

courses at each level of the formal educational system. The courses were designed to make the graduates at each level properly oriented to face realities in agriculture, small-scale enterprises and other forms of self-employment.

Studies in the area of pre-vocational education in Kenya reveal several aspects. These range from a lack of adequate financial base to enhance the implementation of the curriculum, lack of adequate manpower, lack of facilities to a generally negative attitude towards these subjects. As Eshiwani (1987) has pointed out "... it has not been easy to change the attitude of the people in support of environment centred syllabuses and moves towards practical subjects ... lack of enough finance ..."[52]

Sifuna et al. (1988)[53] has also noted that one of the major problems in the area of vocational education has been the problem of the enormous cost involved in the implementation of the curriculum. The equipment and

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52. Eshiwani, G.S.: Educational Policies in Sub-Saharan Africa: Some Perspectives with Special Reference to Kenya, Paper Presented to Seminar on Future Educational Stratgies and Options, Eldoret, Kenya, May 4-8, 1987, p. 17.

53. Sifuna, D.N. and Shiundu, J.O.: Education With Production in Kenya: A State-of-the-Art Review, A Project sponsored by the Centre for the Study of Education in Developing Countries (CESO), The Hague, Netherlands, 1988.

materials required for this type of education are very costly. Most institutions have found it a problem to procure the necessary materials and facilities. This is especially so when it is noted that the government has left the burden of the supply of materials and facilities to the parents through the cost sharing policy. Faced with other pressing needs most parents have found it a problem to equip the institutions as needed.[54]

Against the above scenario is the fact that teachers clearly portray the fact that they are ill- equipped to teach certain areas of the vocational education curriculum. In a study that focused on the comparison of attitudes of teachers and standard eight pupils towards vocational subjects in Nairobi and Tongaren Division of Bungoma District in Kenya, Khaemba (1986) found out that some teachers were uncomfortable with certain aspects of the pre-vocational curriculum. He states:

> A number of teachers reported during practicals that they first ask pupils to work on their own, then they identify the few who are capable and keen and use them

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54. Ibid., p. 111.

> to teach the rest. The teachers argued that they were themselves unable to perform various tasks expected of children and they learnt through pupils.[55]

This clearly portrays a manifestation of teachers' ignorance in certain areas of the pre-vocational curriculum of primary education in Kenya.

Sifuna (1985) discusses the curriculum reform in the area of primary education in Kenya as it relates to the introduction of the 8-4-4 system of education. He critically evaluates the 8-4-4 pre-vocational curriculum against the background of similar developments during the colonial period. He clearly points out in this analysis that the 8-4-4 pre-vocational curriculum, inspite of official government enthusiasm about it, poses a number of problems among which are the general apathy towards this type of curriculum by both parents and the pupils. This scenario, he opines, is not helped by the high cost associated with the implementation of this curriculum.[56]

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55. Khaemba, E.O.: 'Attitudes of Standard Eight Pupils Towards Pre-vocational Subjects: A Comparative Study of Nairobi and Tongaren Division, Bungoma', M.Ed. Thesis, Kenyatta University, 1986.

56. Sifuna, D.N.: The Eight-Four-Four Education System in Kenya: Some Reflection on the Histry of Curriculum Reform in Primary Education, Staff Seminar Paper, Kenyatta University, 1985.

In another study funded by OSSREA, Sifuna (1990)[57] found out that most teachers did not use such methods as group-discussions and demonstration because of pressure of work. It was also observed by the teachers in the field that they were not adequately prepared in their teacher training for teaching the prevocational subjects. This aspect of inadequacy among the teachers coupled with the lack of facilities and materials in the schools does not enhance the implementation of this aspect of the curriculum in the primary schools giving rise to the need to raise the training levels of the teachers in the area of pre-vocational education.

Mackie (1971) studied the status of agricultural education in Kenya with particular attention to the factors that inhibited maximum effectiveness in the area of agricultural education. Among the factors he identified were that there were insufficient facilities in this area, poor staffing practices, poor morale and staff transfers, inadequate teaching aids and inadequate funding.[58]

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57. Sifuna, D.N.: The 8-4-4 Education System in Kenya: A Study of Pre-Vocational Subjects in Primary Schools, OSSREA, Addis Ababa, 1990.

58. Mackie, W.L.: 'Educating for Agriculture: The Kenyan Experience'. Ph.D Thesis, University of California, Los Angeles, 1971, p. ix.

LITERATURE RELATED TO CURRICUL7UM REFORM AND TEACHER EDUCATION: THE ROLE OF TEACHERS IN CURRICULUM IMPLEMENTATION

As society changes, so does the curriculum in order for the education offered to be relevant to the needs of the times. Teachers play a crucial role in the success or failure of any curriculum innovation. This is because they are the ones who translate curriculum theory into practice. Therefore, any curriculum change must take into account the task of re-orienting the teachers to the new demands expected of them.

As Solade (1967) and Anzen (1974) stated, the pivot of any education system is teacher education. However, there are two main challenges to the quality of teaching in developing countries. One is the sheer shortage of qualified personnel to meet the increases in pupil enrolments. The 'answer' to this has been to train more teachers than planning allows for. The other problem is the training of teachers who have a low interest in teaching. Most join the teaching profession because of lack of a 'better' alternative.

In Kenya, where most of those who teach vocational subjects in primary schools never studied the very

subjects at a higher institution than the primary school (Mse, 1986) there is need to equip the primary teacher trainee with academic content to the level of a well educated secondary school pupil before he leaves college. This is because the teacher must have a content level that is above the level at which he is teaching. This is more so in a situation like our schools where there exist several problems - lack of adequate staff, text books and other teaching/learning materials.

In Tanzania when Education for Self Reliance was initiated the planners had not only to deal with curriculum changes but also the question of proper preparation of the teachers. Since education for Self-Reliance was meant to be practical in nature, so the colleges had also to be practical oriented.

In Kenya, during the colonial period, teacher education was closely linked to the school curriculum for which the trainees were being trained. Since, in the African education system, emphasis was laid on industrial and agricultural education, so the curriculum for African teacher education was formulated in such a way that it responded to the industrial and agricultural education that was given to the Africans - as shown in Appendix N.

So, for the vocational subjects to achieve their objectives of enabling the pupil to attain a degree of self-reliance during and after school, they must be taught practically. This requires creativity and initiative on the part of the teachers given that facilities in the subject are quite limited.

As such, teachers must be adequately prepared during their training. It is therefore, imperative that teachers be made aware of any limitations that may hinder the effective teaching of these subjects and advised on how to go about moulding an effective teacher in these subjects - a teacher who is not only going to impart into the learners the necessary skills and attitudes for self-reliance but who is also self-reliant himself. As the ILO Report (1977: 15) notes:-

> in order to improve the quality of instruction and efficiency of training, an increased emphasis should be given to technical teacher/instructor training.

The studies carried out in this area reveal the importance of a well trained teacher component in the success of any educational program - more so technical and vocational education.

Long (1974)[59] explored the development of technical and vocational - industrial education in South Vietnam. In this study, Long paid attention to several variables among which were the effectiveness of the vocational teacher training programs and the extent to which training was consistent with employment needs. Among the findings of the study was a revelation that there was an inadequate enrolment of teachers for engineering courses and training for vocational and other technical courses. The findings in this study revealed that the engineering and teacher training enrolment was only 3.3 percent of the total or a ratio of one to thirty. Due to the inadequate enrolment of teachers for training, there was a very high shortage of qualified teachers in this area resulting in most pupils finishing schools not having acquired the necessary skills nor did they understand the world of work until they began to look for jobs.

Jabbari (1972)[60] in an attempt to develop a plan of trade and industrial education for Iran examined a number of research studies and professional publications

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59. Do Thann Long: 'The Development of Technical and Vocational - Industrial Education in South Vietnam and Its Place in Educational Planning for Manpower Needs'. Ph.D. Thesis, University of Missouri, Columbia, 1974, pp. 44-46.

60. Jabbari, G.E.: 'A Plan of Trade and Industrial Education for Iran: Based on Trade and Industrial Education Programs in the United States', Ph.D. Thesis, University of Missouri, Columbia, 1972.

available in the United States and various government and non-governmental documents in Iran. A need was established for designing a plan which would be functional in meeting the needs for training skilled manpower for Iran. One of the problems identified by the researcher was the need for the Iranian government to supply the system with adequate numbers of qualified teachers who were by then seriously lacking.

Sinha (1965)[61] undertook a study of the development of agricultural education in India. From his historical analysis of this area of education, Sinha made several recommendations which were pertinent to the state of agricultural education in India. Among the recommendations were:

> A strong program of training teachers of Agriculture be started immediately. In addition an improved image of agricultural education is needed ... these should enhance the prestige of agriculture and help dispose of the idea that manual labour is undignified.[62]

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61. Hari Shanker Prasad Sinha: 'The Development of Agricultural Education in India', Ph.D. Thesis, University of Missouri, Columbia, 1964.

62. Ibid., p. 121.

It is evident that Sinha viewed the question of the supply of well trained teachers in adequate numbers as being critical to the success of agricultural education in the Indian education system. There was also the need to change the negative attitudes towards agricultural education by the Indian child in order to attain greater mileage in the implementation of agricultural education in India.

A study closely similar to that of Sinha was the one by Dooley (1964).[63] Dooley studied the development of agricultural education in Iran. Among the summary notes by Dooley was that those students who selected vocational or agricultural training found that academic studies leading to government jobs were held in higher esteem. He went on to point out that agricultural education was unpopular with students because of the belief that education is a means of ensuring a job without strenuous work.

His recommendation in this regard was that agricultural schools and training centres emphasize

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63. Dooley, J.D.: 'The Development of Agricultural Education in Iran', Ph.D. Thesis, University of Missouri, Columbia, 1964.

learning by doing. Through the methods adopted in the training of the students in this area and the skills and abilities imparted to the students, they could gain confidence and consequently, earn the respect of the people in the community.

Jobe (1984)[64] studied the problems affecting agricultural education in high schools in the Gambia. His main concern in this study was to establish the quality of the agricultural science curriculum taught in the high schools in that country. He examined the problems related to instructional methods, teaching aids as well as physical and administrative constraints in providing agricultural education in Gambia.

Among his findings were that agricultural education in the Gambia was faced with various problems among which were shortages of facilities and materials and inadequate finance. In addition, none of the teachers who participated in the study had a refresher course in the subject after graduation. These teachers also had difficulty in mastering aspects of soil science, agricultural economics and agricultural engineering.

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64. Jobe, T.M.: 'A Study of the Problems Affecting Agricultural Education in High Schools in Gambia', P.G.D.E Project, University of Nairobi, 1984.

These findings by Jobe had a striking resemblance to those of Amodoi (1982)[65] who, earlier, had undertaken an examination of the factors that affected the effectiveness of the implementation of the agricultural curriculum in secondary schools in Uganda and those of Gachihi (1985)[66] who undertook a study in the strategies of improving the teaching of agriculture in secondary schools in Kenya.

SUMMARY

From the above review of the literature on this subject, there is a clear revelation of the recognition of the importance of vocational and technical education in our education system. This type of education, in post-independence Kenya, picked momentum at the primary school level as from the mid and late 1970's mainly due to the looming massive unemployment among the school leavers. It was hoped that by equipping the learners with employable skills, they would be in a position to gain employment - either paid or self-employment.

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65. Amodoi, W.: 'An Examination of the Factors Relating to the Effective Implementation of Agriculture Curriculum in Secondary Schools in Uganda', PGDE Project, University of Nairobi, 1982.

66. Gachihi, J.G.: The Strategies of Improving the Teaching of Agriculture in Secondary Schools in Kenya, Kenyatta University, Nairobi, 1985.

Certainly the Gachathi Committee Report (1976) and Mackay Report (1981) gave greater emphasis on the need to emphasize the practical element in the education system. In teacher education, especially the primary teacher segment, the 1974/78 Development Plan was quite categorical in stressing the need to have the teacher trainees to have successfully undertaken at least one practical subject at the secondary school level.[67] This was the first time in post-independence Kenya that such a policy on the practical education element in primary teacher education had been so succinctly expressed. While the subsequent plans - 1979/83; 1984/88 and 1989/93 - were not so categorical in this aspect, the Kamunge Report (1988) touched on the question of the pedagogical quality of teachers and instructors in the area of vocational education in Kenya.[68]

Given the importance of this type of education in the life of the Kenya nation and its peoples, there is no doubt that the implementors of the pre-vocational education come under scrutiny. As the I.L.O. Report (1977) notes:

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67. Kenya Government.: Op. cit., p. 415.

68. Kenya Governemnt.: Op. cit., pp. 42-44.

> in order to improve the quality of instruction and efficiency of training an increased emphasis should be given to technical teacher/instructor training.[69]

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69. I.L.O./S.I.D.A.: Report on Eastern and Southern African Subregional Seminar on Vocational Preparation of Rural Youth for Development; Geneva, 1977, p.15.

CHAPTER THREE

RESEARCH METHODOLOGY

INTRODUCTION

This study was designed to examine the quality of training of primary school teachers in Kenya in vocational subjects. It was specifically aimed at examining the training of teachers in the preservice teacher education program in Kenya with particular emphasis on the training of teachers for the primary school vocational subjects under the 8-4-4 system of education.

The quality of the teachers produced was of vital importance to this study. It was the assumption of the researcher that the quality of the teachers produced is the aggregate of several variables. These variables were identified by the researcher as being the availability of appropriate materials and facilities in the training institutions, availability of appropriately trained tutors, rate of staff transfers in the colleges, attitudinal dispensation of both the tutors and students towards the vocational subjects and the methodology adopted by the tutors in the training of the students.

Consequently, the study was designed to facilitate the collection of appropriate data pertaining to the above variables. The data collected helped provide a guide as to the strengths and weaknesses in the teacher education system and helped in pointing at probable answers to the issues implied in the research questions and assumptions.

DESCRIPTION OF THE SUBJECTS

The research sample of this study comprised the cadre of respondents enumerated below:-

(i) Principals of eight (8) primary teachers' colleges out of the current total of twenty government primary teachers' colleges who responded to a questionnaire designed to elicit responses to questions related to staff in the area of vocational education in the colleges, staff turnover, college facilities and materials in the area of vocational education and questions generally related to problems concerning the teaching and learning of the subjects under study (Appendices A and B).

(ii) Eighty (80) tutors out of a total population of four hundred and fifty six (456) (Table 1) teaching the five subjects namely: Art and Craft, Music, Business Education, Home Science and Agriculture in the first and second year classes in the colleges used for the study. These respondents reacted to questionnaires shown in appendices C and D and also responded to an oral interview guided by the questions appearing in Appendix E.

(iii) Three hundred and twenty (320) students comprising one hundred and sixty (160) first years and an equal number of second years. This was out of a total sample of 8274 students. This study sample was equally spread among the eight colleges used for the study. This category of respondents reacted to two questionnaires shown as Appendices F and G.

Out of these respondents, eighty (80) students (ten per college) out of a total population of 320 (three hundred and twenty) were seen actually teaching the subjects under study during their practical teaching in the primary schools to which they had been posted by

their colleges for the purposes of fulfilling this component of their training program.

As a whole, the study had a population sample of four hundred and eight (408) respondents broken down as follows:-

- eight (8) college principals
- eighty (80) tutors
- three hundred and twenty (320) students.

These subjects helped the researcher in getting information related to the training of primary school teachers in the five subjects under study.

SAMPLING PROCEDURE

The sample used in this study was selected basing on the procedures outlined by Gay L.R. (1976) in his book Educational Research: Competencies for Analysis and Application and the table of ten thousand random numbers suggested by George W. Gnedecor and William G. Gothran in their book Statistical Methods and reprinted by Gay (ibid) pp. 325-328.

At the time of the conception of the study (1990) Kenya had only fifteen government primary teachers' colleges - i.e. Meru, Egoji, Kigari, Machakos, Thogoto, Kamwenja, Kilimambogo, Highridge, Kericho, Migori, Mosoriot, Asumbi, Eregi, Kaimosi and Shanzu. This was the list adopted by the researcher from which the sample of eight (8) colleges were drawn. One of these colleges - i.e. Kilimambogo - was used for the piloting of the research tools. Each of these colleges was allocated a serial number from 00-14 (Appendix P). Then the table of random numbers was entered at an arbitrary number. In this case, the random number entered was 47420. Since the colleges were only fifteen, the last two digits of this random number - i.e. 20 were outside the range. Starting from this number, the first admissible number was 46614 which meant that the college serialised 14 was taken as part of the sample. In this way, the researcher came up with the eight colleges used in the study (random numbers in brackets). Kigari (06902), Shanzu (23410), Kaimosi (94211), Machakos (17401), Mosoriot (72305), Eregi (46614), Meru (01412) and Highridge (62800) (see listing of colleges in Appendix P). The Principals of these colleges automatically became subjects in the study.

This method of sampling was used in the picking of the other subjects in the study - i.e. the eighty (80) tutors and three hundred and twenty (320) students. In the case of the tutors, ten tutors (two teaching each of the subjects under study i.e. Art/Craft, Music, Business Education, Homescience and Agriculture) were randomly selected from each of the eight teachers colleges. In each of the colleges, the total number of tutors teaching these subjects were given serial numbers starting from 00. Then the list of random numbers was randomly entered and the first eighty to qualify formed part of the sample population for the research.

The students were first grouped into male and female. Each of the students in each group was given a serial number starting from 00. Then the list of random numbers was applied and in this way the first twenty (20) female students and twenty (20) male students in each college qualified for their inclusion in the research sample population. Forty (40) students were, therefore, sampled from each college giving a total student population of three hundred and twenty (320) students.

DESCRIPTION OF THE INSTRUMENTS

Several research instruments were employed by the researcher in an effort to elicit the appropriate

responses from the subjects in the study. These instruments were constructed with the objectives of the research problem in mind and each group of the respondents had appropriate instruments. These instruments were:

PRINCIPALS' DEMOGRAPHIC DATA SHEET (PDDS)

The Principals' Demographic Data Sheet (PDDS) was designed to elicit responses from the Principals on such issues as the teaching and learning of vocational subjects in the colleges, the numerical force of the tutors in these subjects in the colleges and their professional qualifications, and the rate of staff transfers among other issues. This instrument had seventeen questionnaire items covering the above issues (Appendix A).

THE PRINCIPALS' INTERVIEW SCHEDULE (PIS)

This tool was used by the researcher to, orally, follow up some of the factors brought out in the Principals' Demographic Data Sheet. This was designed to clarify them further (Appendix B). It was also used to find out the number of tutors per subject actually available in the colleges in comparison with the

Curriculum Base Establishment (CBE) for the subject areas. This was in an effort to establish the deficits in the staffing and the probable effects of this staffing scenario on the effectiveness of the teaching/learning process in the subjects under study.

Apart from the college based teaching/learning process, the interview schedule also sought to find out whether the colleges participate in out-of-college learning activities such as shows and exhibitions especially in the subjects studied. This aspect was important since it would expose the student-teachers to a wider perspective of learning in the subjects and they would also practically see the applicability of these subjects in their lives and the general well-being of the society.

TUTORS' DEMOGRAPHIC DATA SHEET (TDDS)

The Tutors' Demographic Data Sheet (TDDS) was designed to elicit information relating to the tutors' chronological age, sex, professional qualifications and their experience in the subjects they were teaching. It also, among other aspects, sought to establish the inadequacy of the teaching and learning materials and

facilities in the area(s) they were teaching. This instrument had 18 items (Appendix C).

TUTORS' ATTITUDINAL SCALE (TAS)

It was the purpose of the study to establish the attitudinal orientations of the tutors to these subjects. To gather information related to this, a Likert-type scale which had five response options (Appendix D) was used to elicit the tutors' feelings towards the subjects. The five response options were Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree. This tool consisted of ten items which sought to find out how the tutors felt about these subjects in high school and college; whether they enjoy teaching the subjects or not and their feelings about the subjects under study vis-a-viz the other subjects in the curriculum. This tool had a reliability coefficient of .88 (p. 91-92).

TUTORS' INTERVIEW SCHEDULE (TIS)

The Tutors' Interview Schedule (TIS) (Appendix E) sought to clarify any matters raised in both the tutors' attitudinal scale and tutors' demographic data sheet. Specifically, it sought to find out the tutors' teaching load vis-a-viz the class sizes. The other item of

interest in this questionnaire was about the textbooks used by the tutors in teaching the subjects and whether or not they felt the content of these books was adequate and relevant to the type of teacher trainee required under the 8-4-4 education system. It was also the aim of the researcher to use this tool to find out the methods employed by the tutors in teaching the students and whether these methods encouraged applicability of the skills and knowledge gained or simple recall and reproduction of facts. The concept of continuous assessment is a key element in the 8-4-4 system of education. The tool was also used to elicit responses about how the tutors organized continuous assessment in the subject(s) studied. This was with the aim of finding out where the tutors laid emphasis - was it on the factual testing in written tests or application and problem-solving projects?

STUDENTS' DEMOGRAPHIC DATA SHEET (SDDS)

This tool required the students to establish their socio-economic backgrounds, their possession of such materials as books in the learning of the subjects and their patterns of studying the subjects. They were expected to express their feelings about the content given to them in the course of learning the subjects and

the practical element in the subjects among other aspects (Appendix F).

STUDENTS' ATTITUDE SCALE (SAS)

The trainees were also expected to respond to a two-point Students' Attitudinal Scale (SAS) (Appendix G) which sought to establish the students' attitudes to these subjects. Of particular interest to the researcher was to establish the attitudinal trends of the trainees as pertains to the female and male students. This is especially so in the light of the long-held view that some subjects (for example homescience) are for women and such subjects as crafts are for men. Since the 8-4-4 system of education has, as one of its aims, the changing of attitudes among the different sexes towards these subjects, this aspect of the research sought to find out whether or not this aim is being achieved. The scale consisted of nine items which required the students to indicate whether they agreed or disagreed with statements designed to gauge their feelings about certain aspects of the vocational subjects. These were such aspects as whether they liked the subjects or not, how they rated the subjects under study against other subjects in the curriculum, whether or not learning these subjects was interesting and the priority given to studying these

subjects by the students. The students' attitude scale had a reliability coefficient of .82 (p. 91-92).

STUDENTS AND TUTORS INTERACTION ANALYSIS SCALE (STIAS)

This tool was modelled on the lines of the Flanders Interaction Analysis (1969). It was designed to be used by the researcher to gather data related to the teaching modes adopted by the tutors and the teacher trainees (during their teaching practice sessions). It was concerned with how the tutors and student - teachers seek to influence their students in the course of teaching. Was this influence direct or indirect and how much latitude is given to their respective students to express themselves in the class? It is shown as Appendix H.

All these research tools had, prior to their being widely used by the researcher, been piloted at one of the non-sample primary teachers' colleges and updated by the researcher with close professional guidance and input from his supervisors.

Validity

Gay (1976:87) has stated that validity is that degree to which a test or tool measures what it is supposed to measure. In carrying out the research, the researcher paid close attention to the issue of validity of the research instruments in the collection of the data. This aspect of the research was established in a variety of ways.

The content validity of the tools was established through expert judgement. This expert judgement consisted of various phases:

(a) The researcher, at the time of designing the tools worked closely with his supervisors who closely went through the tools, made their suggestions and ultimately certified them valid for the exercise.

(b) The researcher, during the piloting of the tools, took time to explain the research problem and its objectives to the respective respondents, and from this perspective, encouraged them to freely give their input as

far as the research tools were concerned. Their views and suggestions were discussed and those deemed valid incorporated in the final tools during the updating exercise.

(c) The researcher sought the advice of fellow lecturers - especially in the area of curriculum on this issue and their views were incorporated in designing the tools when they were deemed valid.

(d) The views of the Faculty of Education Postgraduate Studies Committee on the same were useful inputs in the validating exercise.

In these ways, the tools used in the study were validated.

Reliability

Thorndike and Hagen (1977) have stated that reliability has to do with the accuracy and precision of the research instruments. The instruments of reliability give an indication of the extent to which a particular measurement is replicable. The split half reliability co-efficient was first computed using the Pearson r

formula by correlating the even-numbered items with the odd numbered items. This yielded a reliability coefficient of .78 for the tutors attitudinal scale and .69 for the students' attitudinal scale. Since the effect of shortening a test or a scale is to lessen its reliability (smith, 1962, p. 161) an allowance for estimating the true length reliability was made by applying the Spearman Brown formula. This resulted into a corrected reliability co-efficient of .88 for the tutors' attitudinal scale and .82 for the students' attitudinal scale (Pearson r and Spearman Brown formulae are provided in Appendix 0).

Gay (op. cit: 95-96) has indicated that a reliability coefficient in the seventies is acceptable. Basing on this, the two tools were adopted for use in gathering data for this study.

DATA COLLECTION PROCEDURE

Given the wide geographical distribution of the colleges used in the study and the fact that the researcher had to gather the data at the same time he was teaching at the university, the researcher had to enlist the help of two research assistants. The researcher held several sessions with the assistants with the aim of

orienting them in the purpose and methodology of the research. These assistants helped in the administration of the principals,' tutors', and students' Demographic Data Sheets as well as Tutors' and Students' Attitudinal scale with as close guidance and supervision from the researcher as possible. The research tools were left with the respondents for them to respond to and collected after a week.

However, the researcher himself followed up this exercise and personally interviewed the principals and tutors on the lines of the interview schedules designed for this purpose (Appendices B and E respectively). This is because the researcher felt a personal interview with the principals and tutors would help him in understanding better the issues involved in the area of the training of teachers than if he got the same through the research assistants. In addition, the researcher personally observed the tutors and students teaching through the use of the teaching observation schedule (Appendix H). The researcher felt this was a technical area that needed his own attention and, given the fact that the research assistants were not trained teachers, they would not have been able to carry out this part of the research competently.

DATA ANALYSIS

For the purpose of data analysis, data obtained from the subjects through the general information questionnaires were scored by hand and, using a calculator, the percentages and means were calculated. This procedure was also adopted in the case of the data obtained through the use of the subjects' interview schedules.

Items in the Tutors' Attitudinal Scale which was modelled on the lines of the Likert-type scale had five response options which were Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. Results obtained from this scale were quantified and reported in percentages after reducing the options to three through combining Strongly Agree and Agree responses to denote 'Agree', leaving Undecided as it was and combining Disagree and Strongly Disagree to denote "Disagree" (Appendix L). The students's Attitudinal Scale had nine items each with two options - Agree and Disagree. The

responses were quantified under these options and the percentages calculated (Appendix M).

The data concerned with the classroom interactive scale was analysed in terms of the interaction patterns displayed in the lessons by both the tutors and students (on their teaching practice). These were categorised in terms of whether the teachers' influence in the class was mostly direct or indirect, whether the students initiate talk or they are prompted by the teacher and what percentage of the time is characterised by silence, confusion or indecision (Table 37). Each of these categories of the interactive process were then quantified and percentages calculated Tables (37, 38 and 39). Conclusions were drawn from the significance or otherwise of each of these statistical manipulations of the data.

SUMMARY

This Chapter was concerned with the design and methodology of the study. A broad view of the description and selection of the sample population has been given. The instruments used in the study have been described in detail i.e. the Principals' Demographic Data sheet, the Principals' Interview Schedule, The Tutors' Demographic Data Sheet, The Tutors Interview Schedule, The Tutors' Attitudinal Scale, The Studerts' Demographic Data Sheet, The Students Attitudinal Scale, The Students

and Tutors' Interaction Analysis Scale. Procedures adopted to attain acceptable validity and reliability of the research tools have been explained. The Chapter has also highlighted a full description of the design and procedures used in data collection.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

INTRODUCTION:

This research was undertaken with the broad aim of establishing the kind of training preservice teacher trainees undergo in the area of the vocational subjects - i.e. Music, Business Education, Home-science, Art/Craft and Agriculture. This training was to be examined in the context of the 8-4-4 system of education which has given these subjects much more emphasis than was the case in the 7-4-2-3 education system that preceded it.

In trying to establish the type of training these trainees are getting, a number of variables in the training package were isolated. These were such variables as the level of staffing in these areas in the teachers' colleges, the availability of required facilities and materials in the teaching of these subjects, the approach adopted by the tutors in the training of the trainees, the attitudes of both the tutors and student-teachers towards these subjects and the level of training of the tutors in these subjects.

In an attempt to find out the above variables, eight primary teachers colleges were used in the study

with the principals of these colleges and a sample of tutors of these subjects and students asked to respond to several questionnaires designed to elicit responses specific to the variables outlined.

An analysis of the data collected is presented below under the following headings:

(i) Analysis of Data obtained from the subjects through the General Information Questionnaires.

(ii) Analysis of Data obtained from the Tutor's Attitudes towards vocational subjects scale.

(iii) Analysis of Data obtained from the Students' Attitudes towards vocational subjects scale.

(iv) Analysis of Data concerned with classroom interactive scale.

(v) Summary

ANALYSIS OF DATA OBTAINED FROM THE SUBJECTS THROUGH THE GENERAL INFORMATION QUESTIONNAIRES

Principals

The principals' questionnaires were intended to elicit responses concerning the general staffing in the teachers' colleges, rate of staff transfers in the

colleges, student enrolment, available facilities and the general impression of the principals on the area of vocational education in the Primary Teachers colleges.

The staffing in the sample colleges is summarized in Table 1. The majority of tutors in the colleges were are approved or B.Ed. holders. These formed 66.89% of the total population. B.Ed. (Primary Option) tutors formed 11.40%. The lowest represented category of tutors was the Master of Arts degree holders who formed only 0.44%.

A summary of the student enrolment in the sample colleges is shown in Table 2. On average, each college had in excess of a thousand students. A majority of these students (52.99%) were first years and 47.01% were second years.

The class size in each of the colleges was of an average of 45 students. In each of the colleges, there was an average of fourteen (14) classes for first year students and eleven (11) classes for second year students. This worked out to an average of twenty five (25) classes in each of the colleges.

TABLE 1

Staffing in the Colleges

Colleges Academic Qualifications	1	2	3	4	5	6	7	8	%
Approved/B.Ed	37	48	34	34	44	39	33	36	66.89
B.ED. (Prim. Opt.)	5	10	11	2	6	6	5	7	11.40
B.A.	3	3	4	3	2	5	4	3	5.92
B.Sc.	-	3	4	-	2	3	3	3	3.95
M.Ed. (Regular)	2	3	3	4	2	3	3	4	5.26
M.Ed. (P.T.E)	2	1	3	4	1	1	3	3	3.95
M.Sc.	-	-	-	-	1	-	1	2	0.88
M.A.	-	-	-	-	2	2	-	-	0.44
Diploma	-	-	-	3	-	-	-	1	1.32
Ph.D	-	-	-	-	-	-	-	-	-
Total	49	68	59	50	60	52	59	456	100.01

Key: In this table and subsequent tables, the numbers shown refer to the following colleges.

1 - Highridge
2 - Shanzu
3 - Mosoriot
4 - Eregi
5 - Kaimosi
6 - Meru
7 - Kigari
8 - Machakos

Table 2

Student Enrolment

Colleges / Academic Yr.	1	2	3	4	5	6	7	8	TOTAL	%	MEAN
First Year	428	515	800	565	510	412	611	543	4384	52.99	548
Second Year	353	579	380	578	553	510	413	524	3890	47.01	486
Total	781	1094	1180	1143	1063	922	1024	1067	8274	100	1034

While we had twenty five (25) classes in each of the colleges, the average number of classrooms available for these classes was twenty two (22) establishing a shortfall of three (3) classrooms. This is shown in Table 3.

Given the average student population of 1034 students per college (Table 2) each classroom was, on average, supposed to hold a total of 47 students. This is way above the recommended 40 students per class.

The practical element in such subjects as Art and crafts requires the availability of specialised rooms such as workshops in the colleges. These rooms facilitate the practical application of the theory aspects. The rooms are therefore, a vital requirement in the implementation of the practical aspect of the 8-4-4 system of education. The number of the rooms in the colleges and their users is summarised in Tables 3 and 4.

The summary shows that, on average, there were two such rooms in each of the teachers' colleges. These rooms were expected to be used by an average of 1034 students per college (Table 2) and the college staff.

Table 3

Classrooms and Specialised Rooms Available

Colleges Institutional Rooms	1	2	3	4	5	6	7	8	TOTAL	AVERAGE
Classrooms	11	19	31	41	25	14	18	15	174	21.75(25)
Specialised rooms	2	1	2	3	2	2	1	1	14	1.75

TABLE 4

Users of the Available Specialised rooms

Users	No.	%
College staff	4	50.00
Students	1	12.50
Both students and staff	3	37.50

From Table 4 only 12.50% in the sample colleges available had rooms exclusively for the use of students. In a majority of cases (50%) the rooms were used by the college staff. In the remaining three colleges (37.5%) the rooms were used by students and the college staff.

Table 5 shows the state of the availability of facilities in the eight colleges studied.

From the Table, the most hard-hit area was indicated as Music with 87.50% of the respondents indicating that there were inadequate facilities and materials in Music. This was closely followed by agriculture whereby 75% of the respondents indicated that there were inadequate facilities and materials. Homescience, Art/Craft and Business Education were placed in the third place as far as the lack of facilities and materials was concerned. All the three subjects had 62.5% of the respondents indicating that there were inadequate facilities and materials in these subjects.

The average amount of land each college had put at 83.63 acres or approximately 84 acres. Individually, the college with most land nad 121 acres while that with the least amount of land had 52 acres.

TABLE 5

Adequacy of Facilities/Materials

	ADEQUATE		INADEQUATE	
	No.	%	No.	%
Art/craft	3	37.50	5	62.50
Music	1	12.50	7	87.50
Agriculture	2	25.00	6	75.00
Business Education	3	37.50	5	62.50
Homescience	3	37.50	5	62.50

The land available was utilised in various ways as pointed out in Table 6. The table shows that the land available was sparsely used. Inspite of the fairly large amounts of land, few of the colleges had made any attempts to be self reliant in the food items used in the colleges. On average, only 0.89% of the land in each college was used for the growing of maize while only 0.58% of the land is used for the growing of beans. The two food items are the most used foodstuffs in most educational institutions, teachers colleges included. The highest amount of land percentage devoted to the growing of maize by an individual college was only 2.2% of the total land available (college 6) while the highest land percentage devoted to the growing of beans was 2.4%.

On the side of cash crops only one college indicated it grew tea and coffee (1.2% and 1.9% respectively). Taken on a general level, these two items accounted for only 0.15% and 0.24% respectively of the land use in each of the teachers' colleges.

From Table 6, it would seem that the most popular animal husbandry done was that of keeping cattle with an average of 18.22% of the land in each college being indicated as directed to the keeping of cattle. In fact one college indicated it used 95%

Table 6

Amount of Land and Its Use

Colleges	1	2	3	4	5	6	7	8	Mean	
Land in Acres	121	52	90	60	120	101	53	72	83.63	(84)
Use: (% acreage)										
Growing Maize	-	-	0.9	1	-	2.2	1.8	1.2	0.89	
Beans	-	-	0.9	-	-	1.3	2.4	-	0.58	
Vegetables	-	-	1.9	20	9.4	2.6	3.1	1.3	4.79	
Potatoes	-	-	1.9	2	-	-	1.1	1.1	0.76	
Tea	-	-	1.2	-	-	-	-	-	0.15	
Coffee	-	-	1.9	-	-	-	-	-	0.24	
Keeping Cattle	-	1.5	40	1.89	95	3.1	2.2	2.1	18.22	
Pigs	-	-	1.5	-	5	1.89	-	-	1.05	
Poultry	1.2	1.6	2.5	1	-	1.89	1	0.7	1.42	

of its land on keeping of cattle while college 3 indicated it used 40% of the land on keeping cattle. The only other animals kept by the colleqes were pigs and poultry with an average of 1.05% and 1.42% of land being used for the keeping of these two types of animals respectively.

Closely tied to the foregoing was the question of acquisition of food items. A major aspect of the 8-4-4 system of education is to instil a sense of self-reliance in the learners. This is expected to be instilled in the learner through the various curricula and co-curricular components available in the colleges.

As such, it is expected that the educational institutions, in their curricula implementation endeavours, should strive for self-reliance in various aspects of the institutions' life. One area in which this may clearly be demonstrated is in the area of crop production and animal husbandry This is especially so in the context of the fairly large amounts of land that most of these colleges have as shown in Table 6.

In the light of this, the question of self reliance in various food items was explored. Most of the respondents indicated they were deficient in

various food items. Ironically, all the colleges were deficient in the major food components - maize and beans. Table 7 shows clearly the state of self-sufficiency in the various food items in the colleges.

As shown in Table 7 none of the colleges - even those situated in the maize and bean growing areas of Western Kenya were self-sufficient in these food items. The same was the case with vegetables. Only two colleges were self-sufficient in eggs. This was only 25% and 12.5% respectively of all the colleges. The rest of the colleges depended, to a large extent, on external sources for the acquisition of the required food items. The portrayal of this situation in each of the colleges is summarised in Table 8.

As it can be seen, maize and beans ranked high as externally acquired food items. The percentage of external acquisition of these items was 91.38% and 69.25% respectively while only 8.63% and 3.75% respectively was grown by the colleges themselves. Eggs, milk and vegetables were 85%, 73.13% and 79.75% externally acquired. These figures were very high and no doubt ate deep into the colleges' accounts and so the colleges ought to have made an attempt to reduce them in an effort to attain self-sufficiency in these food items and save on the finances of the colleges and also make the aim of self-reliance as spelt out by the 8-4-4 system of education a reality.

TABLE 7

Food Self-sufficiency

	Yes		No.	
	No.	%	No.	%
Maize	-	-	8	100
Beans	-	-	8	100
Vegetables	-	-	8	100
Milk	2	25.00	6	75.00
Eggs	1	12.50	7	87.50

TABLE 8

Food Acquisition

	Internally Acquired (%)									Externally Acquired (%)								
Colleges	1	2	3	4	5	6	7	8	Mean	1	2	3	4	5	6	7	8	Mean
Maize	-	1	20	30	-	-	18	-	8.63	100	99	80	70	100	100	82	100	91.88
Beans	-	-	20	-	-	-	10	-	3.75	100	100	80	100	100	100	90	100	96.25
Vege-tables	-	50	50	42	20	-	-	-	20.25	100	50	50	58	80	100	100	100	79.75
Milk	-	1	100	-	100	-	15	-	26.88	100	-	-	100	-	100	85	100	73.13
Eggs	100	-	-	-	-	-	20	-	15.00	-	100	100	100	100	100	80	100	85.00

The principals pointed out various problem areas in these subjects. These problems are presented in Table 9.

From Table 9, in a majority of cases, the most pressing problems in these subjects were related to the lack of special rooms and materials. This was the case in Art/Craft, Music, Agriculture and Homescience. However, in Business Education, the most notable problem was indicated as being expensive books. Congested syllabi (Art/Crafts and Business Education) and expensive materials for Art/Craft, and Homescience and, to some extent, Agriculture and Business Education were some of the problems. Lack of adequate staff was also a noticeable problem in Art/Craft and Music. It was only in Business Education where a notable percentage of respondents (37.5%) reported no problems. This response was also entered in the case of Music.

These responses were confirmed in the subsequent oral interviews with the principals. In addition, it was clearly brought out that there was a notable shortfall in all these subjects as far as staffing was concerned. Table 10 sets out the shortfall in tutors in each of the subjects studied.

Table 9

Problems in Implementation

	ART/CRAFT		MUSIC		AGRI.		H/SCIEN.		B.ED	
	No.	%	No.	%	No.	%	No.	%	No.	%
Lack of special rooms	5	62.5	4	50	4	50	1	12.5	1	12.5
Lack of materials/ facilities	5	62.5	6	75	4	50	5	62.5	1	12.5
Syllabus congested	2	25.0	-	-	-	-	-	-	1	12.5
Few staff	1	12.5	1	12.5	-	-	-	-	-	-
Books expensive	1	12.5	-	-	-	-	1	12.5	3	37.5
Practicals expensive	3	37.5	-	-	1	12.5	2	25.0	1	12.5
Nil	-	-	1	12.5	-	-	-	-	3	37.5

From Table 10, the overall percentage shortfall in the five subjects was 12.06%. The highest shortfall was noticeable in Art/Craft where there was a shortfall of nine tutors representing a total of 21.43% followed by Homescience (12.5%); Agriculture (10.26) Business Education (8.57%) and lastly Music (6.98). Only one college reported a nil shortfall in all the areas under study. Otherwise all the other colleges had a shortfall in one area or other.

All in all, the principals' responses revealed various weaknesses and strengths and shed light on the state of these subjects in the teachers colleges.

TUTORS RESPONES

In any educational system, the issue of the implementation of the curriculum largely falls in the docket of the teachers. It is they who translate the theoretical curriculum documented in various forms into reality. They pass the contemplated aspirations set out by the planners to the active consumers of the curriculum - the students.

Table 10
Staff Shortfall

Subject / College	S/C			MUSIC			H/SC			AGRI			B.ED.			TOTALS		
	SA	CBE	SF	SA	CBE	SF	SA	CBE	SF	SA	CBE	SF	SA	CBE	SF	SA	CBE	SF
1	5	7	2	5	5	0	4	5	1	5	5	0	4	5	1	23	27	4
2	6	6	0	6	6	0	5	5	0	6	6	0	5	5	0	28	28	0
3	3	4	1	5	5	0	4	4	0	4	4	0	4	4	0	20	21	1
4	4	5	1	4	5	1	6	6	0	5	5	0	5	5	0	24	26	2
5	3	5	2	5	6	1	5	5	0	3	4	1	4	4	0	20	24	4
6	3	5	2	6	6	0	3	5	2	3	5	2	3	4	1	18	25	7
7	4	5	1	4	5	1	5	5	0	4	5	1	3	4	1	20	24	4
8	5	5	0	5	5	0	3	5	2	5	5	0	4	4	0	22	24	2
	33	42	9	40	43	3	35	40	5	35	39	4	32	35	3	175	199	24
SF	%	21.43			6.98			12.5			10.26			8.57			12.06	

KEY: S.A -Stafff available; CBE - Curriculum Based Establishment; S.F - Shortfall.

It is therefore, vital that in any education system, the area of teachers' training, experience and attitudes be looked at. This is an effort to gauge the general level of the teachers' competencies and re-align them with the general expectations of the education system.

Given the importance laid on the area of vocational education in the 8-4-4 system of education and the general negative historical perception of this type of education in Kenya (as spelt out in Chapter 1), it was important to examine certain aspects of the teacher trainers in the area of vocational education. This was an effort to correct any weaknesses in order to strengthen this area of education in Kenya. What was crucial importance was the level of training of the teacher trainers, their experience in the area of primary education, what they perceived and why they perceive them as problem areas. It was also important to look at the attitudes of the tutors, for attitudinal factors play a key role in how the person approaches a particular issue.

A survey in the eight primary teachers colleges revealed that the lowest professional qualification of the tutors covered in this research was the Approved Teachers Status (A.T.S.) category. They were the second lowest represented in the teacher colleges, forming 5%.

The lowest (3.75%) was that of the secondary teacher I (SI). Otherwise most of the tutors in the colleges were graduates (60%) while the Diploma holders formed 31.25%. The distribution of tutors by qualification in each of the subjects studied is shown in Table 11.

The subject with the highest concentration of graduate tutors was Business Education (73.33%) followed by Music (70.59%) and Homescience (68.42%). Half of the tutors in Art/craft were graduates (50%). In Agriculture, most of the tutors were diploma holders (64.71%). The S1 and A.T.S. tutors were visible only in Art/Craft and Homescience where they formed a total percentage of 33.33% and 15.79% respectively. Overall, there were more graduate tutors (60%) followed by Diploma tutors (31.25%). The S1 and A.T.s. tutors formed only 8.75%.

A scouting of the tutors' study of these subjects at the teachers' college level revealed the information summarised in Table 12.

From Table 12 it is evident that Music registered the highest percentage of its tutors having taken it as a teaching subject at the teacher training college level. It had a percentage of over 70%. This was closely followed by Art/Craft (66.67%) and then Business

Table 11

Tutors' Professional Qualifications

	ART/CRAFT N = 12		MUSIC N = 17		HOMESCI. N = 19		B.ED. N = 15		AGR. N = 17		TOTAL N = 20	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Graduate	6	50	12	70.59	13	68.42	11	73.33	6	35.29	48	60.00
Diploma	2	16.67	5	29.41	3	15.79	4	26.67	11	64.71	25	31.25
S1	1	8.33	-	-	2	10.53	-	-	-	-	3	3.75
ATS	3	25.00	-	-	1	5.26	-	-	-	-	4	5.00

Education came third (53.33%). Homescience registered the lowest of this category of tutors (36.84%) followed by Agriculture (41.18%). As noted, overall, only 52.5% of the tutors teaching these subjects took them or a subject closely related to them at the training college. The remaining 47.5% were tutors teaching subjects for which they were not trained. They may be said to be "untrained" teacher trainers in our teachers' colleges.

The tutors' experience in teaching any subject is a significant component of tutor performance in his/her area of teaching. In these subjects, the tutors' experience in teaching is presented in Table 13. From the table, it can be seen that in most of the subjects - Art/Craft, Business Education and Agriculture, a majority of the tutors had a teaching experience of seven years and above respresenting 58.34%, 60% and 52.94% in Art/Craft, Business Education and Agriculture respectively. However, in Music and Homescience most of the tutors had a teaching experience of less than seven years - 52.94% in Music and 57.9% in Home Science. Overall, most of the tutors had a teaching experience of seven years and above (51.25% against 48.75% who had less than 7 years in teaching these subjects).

Table 12

Tutors' Performance at Teacher training College Level

	ART/CRAFTS INDUSTRIAL EDUCATION N = 12		MUSIC N = 17		BUS. EDUC. COMMERCE N = 15		HOMESCIEN. HOME-ECONO. N = 19		AGRICULTURE N = 17		TOTALS N = 80	
Grades	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
A	1	8.33	1	5.88	-	-	-	-	1	5.88	3	3.75
B	3	25.00	3	17.65	6	40	5	26.32	3	17.65	20	25.00
C	2	16.67	-	-	2	13.33	1	5.26	3	17.65	8	10.00
D	-	-	1	5.88	-	-	-	-	-	-	1	1.25
E	-	-	-	-	-	-	-	-	-	-	-	-
1	1	8.33	5	29.41	-	-	-	-	-	-	6	7.50
2	1	8.33	-	-	-	-	1	5.26	-	-	2	2.50
3	-	-	1	5.88	-	-	-	-	-	-	1	1.25
4	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	1	5.88	-	-	-	-	-	-	1	1.25
7	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	8	66.67	12	70.59	8	53.33	7	36.84	7	41.18	42	52.5

Apart from experience in teaching at the teachers' college level, being primary school teacher trainers, it was also of interest to find out the tutors experience in the area of primary education - especially their having actually taught at a primary school. In the context of the fact that most of the tutors were university graduates (Table 1) whose university course content hardly contained primary school methodology, this particular experience would have been be invaluable to a primary school teacher trainer. Table 14 shows this aspect of the research. From the table, it can be seen that most of the tutors teaching these subjects did not have any primary teaching experience. Only 33.75% of the tutors teaching these subjects had any experience in teaching at the primary school level. Of this lot, most of the tutors had an experience of less than 5 years - i.e. 27.5% have taught in the primary school for periods ranging from a few months to 4 years. Only 6.25% of these tutors have a primary school teaching experience of five years and above.

Out of the 27 tutors who indicated they had taught in the primary school, about half of them (48.15%) were from the area of Music. This was probably due to the transfers of those primary school teachers with at least a grade 6 in the Royal Society of Music examination from the primary schools to secondary schools and primary teachers' colleges to alleviate the critical shortage of

Table 13

Tutors' Experience

	ART/CRAFT N = 12		MUSIC N = 17		HOME SCIEN. N = 19		BUS. EDU. N = 15		AGRICULTURE N = 17		TOTAL N = 80	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Less than a year	1	8.33	-	-	2	10.53	-	-	1	5.88	4	5.00
1 - 3 Yrs	2	16.67	5	29.41	3	15.79	2	13.33	3	17.65	15	18.75
4 - 6 Yrs	2	16.67	4	23.53	6	31.58	4	26.67	4	23.53	20	25.00
7 - 9 Yrs	2	16.67	4	23.53	3	15.79	6	40.00	3	17.65	18	22.50
10 Yrs and above	5	41.67	4	23.53	5	26.32	3	20.00	6	35.29	23	28.75

these teachers/ tutors (especially with the introduction of the 8-4-4 system of education). The lowest percentage of tutors with primary school teaching experience was in the area of Agriculture i.e. only 2 tutors (or 7.41%) of the 27 tutors were in this area. This was followed by Business Education, Homescience and Art/Craft with 11.11%, 14.81% and 18.52% respectively.

As far as the question of such facilities and materials as text books, rooms, charts etc is concerned, Table 15 sets out the tutors' perceptions about them. In all the cases, a majority of the tutors felt that there were inadequate facilities and materials and textbooks. In addition to the inadequacy of materials and facilities, most tutors also felt that their classes were too big to be handled comfortably.

In the context of the above problems related to the dearth of facilities and materials in these subjects as well as the large classes and the relatively high number of tutors who did not actually train in these subjects at their teacher training college levels, the tutors came up with several areas in their subjects which they considered difficult. These areas are outlined in Appendix I.

Table 14

Tutors' Teaching Experience in Primary School

Teaching Experience	Art/Craft N = 12		Music N = 17		Homescience N = 19		Agriculture N = 15		B. Education N = 15		Total N=80	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Not taght in primary school	7	58.33	4	23.53	15	78.95	15	88.24	12	80.00	53	66.25
Less than 1 Year	2	16.67	-	-	1	5.26	-	-	2	13.33	5	6.25
1-2 Years	-	-	2	11.76	2	10.53	2	11.76	-	-	6	7.50
3-4 Years	3	25.00	6	35.29	1	5.26	-	-	1	6.67	11	13.75
5-6 Years	-	-	2	11.76	-	-	-	-	-	-	2	2.50
7-8 Years	-	-	1	5.88	-	-	-	-	-	-	1	1.25
9-10 Years	-	-	1	5.88	-	-	-	-	-	-	1	1.25
Above 10 Years	-	-	1	5.88	-	-	-	-	-	-	1	1.25
Total	12	100	17	100	19	100	17	100	15	100	80	100

Table 15

Adequacy of Facilities and Materials

		Art/Craft N=12		Music N=17		Home Science N=19		Agriculture N=17		B.Education N=15		Total N=80	
		N	%	N	%	N	%	N	%	N	%	N	%
Teaching Materials	Adequate	-	-	5	29.41	3	15.79	6	35.29	4	26.67	18	22.50
	Inadequate	12	100	12	70.59	16	84.21	11	64.71	11	73.33	62	77.50
Textbooks	Adequate	-	-	5	29.41	6	31.58	10	58.82	3	20.00	24	30.00
	Inadequate	12	100	12	70.59	13	68.42	7	41.18	12	80.00	56	70.00
Rooms/space	Adequate	3	25	8	47.06	1	5.26	8	47.06	6	40.00	26	32.50
	Inadequate	9	75	9	52.94	18	94.74	9	52.94	9	60.00	54	67.50
Too big Classes	Yes	10	83.33	15	88.24	16	84.21	13	76.47	9	60.00	63	78.75
	No	2	16.67	2	2	3	15.79	4	23.53	6	40.00	17	21.25

Appendix I clearly shows the problem areas to the tutors in the course of their teaching these subjects. In Art/Craft, metal work, leather work, building construction, fabric design, woodwork, puppetry, and loom weaving lead the pack with over 50% of the tutors teaching these subjects indicating they had problems teaching them. In Music, it was the practical elements of playing instruments in general and playing Western music in particular that a majority of tutors indicated they had problems teaching i.e. 58.82% and 70.59% respectively . Similarly two areas in Home Science seemed to be of particular concern to the tutors. These were laundry (52.63%) and clothing and textiles (52.94%).

In agriculture, many areas posed problems to the tutors. These areas were agricultural economics (64.71%) Crop Diseases (52.94%) Fertilizer Calculations (76.47%), Fish farming (70.59%) Soil Ph (58.82%) Crop production practicals (52.94%) and livestock management (64.71%). Business records (73.33%) and accounts (60%) were cited as the major problem areas in Business Education.

Various reasons were cited by the tutors as being responsible for those felt problems. The reasons are

outlined in Table 16. Most of the tutors (58.83%) in Art/Craft indicated they had problems in some areas due to lack of training at the college level in these areas. The areas mostly cited by these tutors were metal work, leatherwork and woodwork. In Business Education 33.33% of the tutors cited this as the reason for difficulty in teaching - especially in the area of Business records.

In Agriculture, lack of training at college level was cited as being responsible for the problem of teaching Agricultural Economics, Fertilizer calculations, Fish farming and Soil Ph. The other problems ranged from lack of materials to poor student background-as shown in the Table 16. The question of negative attitudes according to the sex of students was cited in Home science, Business Education and Art/Craft; while the question of negative female student attitudes was cited in Art/Craft especially in the areas of Metalwork, Woodwork, Building construction, Leather-work and in Business Education (accounts). The same was cited in the case of male students in nearly all the areas outlined as problem areas in Home science (Table 16).

Table 16

Reasons for Problems

	Art/Craft N=12 N %		Music N=17 N %		Home Science N=19 N %		B.Education N=15 N %		Agriculture N=17 N %		Total N=80 N %	
Lack of training at college	7	58.33	-	-	-	-	5	33.33	8	47.06	20	25.00
Lack of materials	8	66.67	-	-	7	36.84	6	40	1	5.88	22	27.50
Wide syllabus/inadequate time	5	33.33	6	35.29	11	57.89	2	13.33	10	58.82	34	42.50
Lack of space	4	66.67	-	-	7	36.84	1	6.67	2	11.76	14	17.50
Not expert in area	8	33.33	7	41.18	-	-	7	46.67	2	70.59	34	42.50
Lack of student interest (general)	4	41.67	5	29.41	3	15.79	2	13.33	12	35.29	20	25.00
Classes too big	5	8.33	9	52.94	10	52.63	7	46.67	6	41.18	38	47.50
Poor maintenance of facilities	1	-	-	-	6	31.58	-	-	7	17.65	10	12.50
Male student chauvinism	-	58.33	-	-	14	73.68	-	-	3	-	14	17.50
Lack of interest by female students	7		-	-	-	-	9	60	-	-	16	20.00
No tutors' guides in methodology	-	-	-	-	-	-	11	73.33	-	-11	13.75	
Poor student background knowledge	2	16.67	8	47.06	6	31.58	8	53.33	5	29.41	29	36.25
Poor student knowledge in Chemistry	-	-	-	-	-	-	-	-	14	82.35	14	17.50
Lack of support by college administration	-	-	-	-	3	15.79	1	6.67	10	58.82	14	17.50

Generally, the question of large classes was cited as the most crucial factor (47.50%) followed by lack of expertise in the areas cited, as well as wide syllabi against inadequate time allocated to their teaching (42.50%). Other major reasons were poor student background in the subjects (36.25%), lack of materials (27.50%), lack of training at college and a general lack of student interest (25%).

On the question of student's performance in their practical teaching assignments during their training most of the tutors expressed the view that this aspect was not adequately done by the students, as shown in Appendix J.

From appendix J it was only in Business Education where most of the tutors felt that the teaching by the trainee student teachers during their teaching practice was adequate. Otherwise in all the other subjects, most of the tutors indicated this aspect of their training was inadequately done.

The reasons for this inadequate performance seemed to be unique to each subject. However, the problem of inadequate lesson planning and use of teaching aids seemed to apply to more than one subject.

Various reasons were advanced by the tutors for this performance by students in their teaching practice (Table 17).

Apart from problems in teaching practice, students had problems in classwork as well (Table 18).

In music, the main problem area appeared to be pitch and rhythm and triads and transposition.

Both of these areas had 52.94% of the respondents indicating they are problem areas to the students. This was followed by methodology, translation of theory into practice and theory of music - with 41.18%, 35.29% and 29.41% of the respondents respectively indicating they posed problems to the students. In Art/Craft, leather-work ranked first in the areas pausing problems to the students (66.67%). This was followed by sculpture and lettering (58.33%) and drawing and painting (41.67%).

In the remaining subjects, less than half of the tutors felt there were problem areas. In agriculture, the highest ranked problem area (soil and soil ph) had only 32.59% of the tutors indicating this was a problem area while

Table 17

Reasons for Problems in T.P.

	Art/Craft N=12 N %		Music N=17 N %		Home Science N=19 N %		B.Education N=15 N %		Agriculture N=17 N %		Total N=80 N %	
Lack of enough musical skills	-	-	11	64.71	-	-	-	-	-	-	11	13.75
Lack of adequate practice	6	50	8	47.06	-	-	-	-	-	-	14	13.75
Lack of musical instruments	-	-	10	58.82	-	-	-	-	-	-	10	17.5
Little time to organise practical	9	75	9	52.94	-	-	-	-	-	-	18	12.5
Lack of basic knowledge in Art	7	58.33	-	-	-	-	-	-	-	-	7	22.5
Consider Art as for the gifted	5	41.67	-	-	-	-	-	-	-	-	5	8.75
Lack of materials	6	50	-	-	-	-	-	-	-	-	6	6.25
Lack of special teaching rooms	8	66.67	11	64.71	9	47.37	-	-	-	-	28	7.5
Poor background knowledge	7	58.33	8	47.06	4	21.05	8	58.33	5	28.41	32	35
Poor background in maths	-	-	-	-	-	-	12	80	-	-	12	40
Lack of textbooks	-	-	-	-	-	-	9	60	-	-	9	15
Negative attitude to B.Ed teaching due to its mathematical orientation	-	-	-	-	-	-	11	73.33	-	-	11	11.25
Difficulty to translate theory to practice	10	83.33	12	70.59	13	68.47	-	-	-	-	35	13.75
Poor background in males	-	-	-	-	10	52.63	-	-	-	-	10	43.75
Students ill-prepared	8	66.67	9	52.94	4	21.05	6	40	2	11.16	29	12.5
Male chauvinism	-	-	-	-	9	47.37	-	-	-	-	9	36.25
Inadequate practice in making teaching aids	4	33.33	5	29.41	-	-	-	-	11	64.71	20	11.25
Poor attitude to subject	7	58.33	5	29.41	3	15.79	-	-	13	76.47	28	25
Difficulty to experiment	-	-	-	-	-	-	-	-	12	70.59	12	35

Classwork and Teaching Practice Performance

Tables 17 - 19.

Table 18
Performance and Weaknesses of Students in Classwork

	Art/Craft N=12		Music N=17		Home Science N=19		B.Education N=15		Agriculture N=17		Total N=80	
	N	%	N	%	N	%	N	%	N	%	N	%
Satisfactory performance	4	33.33	41	18	14	73.68	9	60	12	70.59	46	57.5
Unsatisfactory performance	8	66.67	10	58.82	5	26.32	6	40	5	29.41	34	42.5
Translating theory into practice			6	35.29								
Pitch and Rhythm			9	52.94								
Theory and Music			5	29.41								
Methodology			7	41.18								
Triads and transportation			9	52.94								
Sculpture	7	58.33										
Leather work	8	66.67										
Drawing and painting	5	41.67										
Lettering	7	58.33										
Soils and soil pH									6	32.59		
Animal production									5	29.41		
Agricultural Economics									5	29.41		
Food and nutrition					5	26.32						
Clothing and textile					5	26.32						
Needlework					4	21.05						
Accounts							5	33.33				
Business Records							6	40.00				

in Homescience and Business Education, the highest ranked problem areas - Food and Nutrition and Clothing and Textile (in Homescience) and Business Records in Business Education had only 26.32% and 40% respectively indicating they were problem areas to the students. Various reasons were advanced by the tutors for these inadequacies among their students (Table 19).

From Table 19 it is evident that in all the subject areas, the reasons were mainly related to the students background knowledge in the area, lack of materials and textbooks and the large student numbers. Other factors were attitudinal in nature - e.g. belief by students that the areas were difficult and the generally poor attitudes to certain components in the subject e.g. Mathematics in Business Education (for female students) and Homescience for male students.

It is clear from the foregoing that the tutors felt they were themselves inadequate in various aspects of these subjects (Appendix I and Table 16). They also felt that the students were not adequately competent in certain aspects of these subjects - both in their class-work and in the practical teaching component of their course (Appendix J, Tables 17, 18, and 19). In the context of these there is an urgent need to institute corrective measures in these subjects. One such step in

TABLE 19

Reasons for Student Weaknesses

	Art/Craft N = 12		Music N = 17		H/Science N = 19		B/Education N = 15		Agriculture N = 17	
	No	%	No	%	No	%	No	%	No	%
Limited time	5	41.67	8	47.06	5	21.05	5	33.33	4	23.53
Poor background	7	58.33	9	52.94	2	10.53	4	26.67	5	29.41
Lack of text-books/materials	7	58.33	9	52.94	5	26.32	4	26.67	3	17.65
Belief area difficulty	8	66.67	6	35.29	3	15.79	3	20.00	2	11.76
Lack of good knowledge in Chemistry	-	-	-	-			-	-	4	23.53
Poor Male attitudes	-	-	-	-	5	26.32	-	-	-	-
Lack of space/ large student numbers	7	58.33	6	35.29	4	21.05	3	20.00	4	23.53
Female phobia against Maths	-	-	-	-	-	-	6	40.00	-	-
Generally poor attitudes to Maths	-	-	-	-	-	-	5	33.33	-	-

an effort to redress these shortcomings is inservice or refresher courses in these subjects. Of the eighty tutors who participated in this research, only eighteen (22.50%) indicated they had attended any inservice or refresher courses in these subjects, as shown in Table 20.

The subject with the highest number of tutors who had undergone the inservice or refresher courses was Music which had 35.29% of its tutors having attended these courses. This was followed by Agriculture (29.41%) Art/Craft (16.67%) and Homescience (15.79). Business Education had the lowest number of tutors who had had any inservice or refresher course (13.33%).

On the day to day teaching in the college, the tutors indicated that their most favourite method of teaching was the lecture (77.5%). The other methods that were adopted by the tutors were discussions, demonstration and projects respresenting 57.5%, 57.5% and 41.25% respectively. Table 21 illustrates the teaching aspects of methodology.

Most Homescience tutors (73.68%) indicated that they adopted demonstration as a method of teaching followed by projects (63.15%). The lecture was rated least used in Homescience (52.63%). Discussion as a method was the third most used with 57.89% of the tutors indicating they adopted it as a method of teaching.

Table 20

Tutors' Attendance of Seminars and Workshops

	Art/Craft N = 12		Music N = 17		Homescience N = 19		B. Education N = 15		Agriculture N = 17		Total N = 80
	No.	%	No.	%	No.	%	No.	%	No.	%	No. %
Yes	2	16.67	6	35.29	3	15.79	2	13.33	5	29.41	18 22.50
No	10	83.33	11	64.71	16	84.21	13	86.67	12	70.59	62 77.50

TABLE 21

Teaching Methods

	Art/Craft N = 12		Music N = 17		H/Science N = 19		Agriculture N = 17		B.Ed. N = 15	Total N=80
	N	%	N	%	N	%	N	%	N	%
Discussion	6	50	9	52.94	11	57.89	11	64.71	9 60	46 57.5
Demonstration	8	66.67	9	52.94	14	73.68	9	52.94	6 40	46 57.5
Lecturre	10	83.33	16	94.12	10	52.63	14	82.35	12 80	62 77.5
Project	9	75	6	35.29	12	63.16	3	17.65	3 20	33 41.25

The second most used method in Art/Craft was the project method (75%) while demonstration was rated third most used method (66.67%). Business Education and agriculture tutors listed discussion and demonstration as second and third most used methods of interaction with Agriculture having 64.71% and 52.94% of its tutors respectively choosing these methods while in Business Education we had 60% for discussion and 40% for demonstration. In the case of Music, demonstration and discussion tied with 52.94% of the tutors in these subjects indicating they used these methods in teaching the subject. In Business Education, Music and Agriculture, projects were the least rated - with 20%, 35.29% and 17.65% respectively using them. The project method was also the least used - preferred by only 41.25% of the total teaching force in these subjects.

Table 22 illustrates the continuous assessment methods used in the colleges. The most widely used mode of assessing the student teachers was
written tests - with an overall choice by 72.5% of the tutors. This method had the highest preference in Agriculture (88.24%) followed by Music (76.47%), Business Education (73.33%). Checking on the written notes was the least used mode of assessment with overall choice by (3.75%) and Agriculture (5.88%). Projects were chosen by only 45% of the tutors but they had a strong presence in

TABLE 22

Continuous Assessment Methods

	Art/Craft N = 12		Music N = 17		H/Science N = 19		Agriculture N = 17		B.Ed. N = 15		Total N=80	
	N	%	N	%	N	%	N	%	N	%	N	%
Theory written questions	7	58.33	13	76.67	12	63.16	15	88.24	11	73.33	58	72.5
Practicals/ Project	7	58.33	11	64.71	11	57.89	6	35.29	1	6.67	36	45.00
Check on written notes	-	-	-	-	-	-	1	5.88	2	13.33	3	3.75
Research	4	33.33	-	-	3	15.79	2	11.76	1	6.67	33	12.50

Music, Art/Craft and Homescience with 64.71%, 58.33% and 57.89% respectively. Agriculture had only 35.29% of the tutors choosing it as a method of assessment with the least choice recorded in Business Education (6.67%).

STUDENTS' RESPONSES

The students in any education system, and at whatever level of educational ladder, are the immediate active consumers of the curriculum. It is they who constitute the largest numerical component in the educational enterprise and it is on their performance that the judgement on the value of an education system is based. It is, therefore, of crucial importance to gauge the students' sentiments and feelings about the innovation designed for them in an effort to make the curriculum more responsive to their aspirations.

Given the fact that the 8-4-4 system of education is not only a major overhaul in Kenya's education system but was also introduced with a degree of haste, the need to examine the curriculum offered to the teacher trainees who were expected to implement the system was crucial. Such aspects as their educational background, socio-economic status, perceptions of curricula inputs in terms of pedagogy, materials,

resources and facilities and their feelings towards the subjects under study were of importance in an effort to re-allign the teacher education curriculum and the student teachers aspirations.

As mentioned in Chapter three, a total sample population of three hundred and twenty students was used in this study and equally divided into female and male students.

Many of the students indicated they did not have textbooks in the subjects under study. The subject most affected by this scenario was Art/Craft where a total of 65.63% of the respondents indicated that they did not have textbooks in the subject. This was followed by Music where 53.44% of the students did not have the required textbooks. Table 23 illustrates this point further.

From Table 23, it is clear that while most of the female students (70.63%) opted to buy textbooks in Homescience most of the male students (60%) chose to buy textbooks in Agriculture and Music (53.75%). A good percentage of both male and female students chose to possess a book in Business Education (57.5% of female students and 50.63% of the male students).

Table 23

Students' Possession of Textbooks

SUBJECT	FEMALES N = 160				MALES N = 160				TOTAL N = 320			
	Yes	%	No	%	Yes	%	No	%	Yes	%	No	%
Art/Craft	42	26.25	118	73.75	68	42.50	92	57.5	110	34.38	210	65.62
Music	63	39.38	97	60.62	86	53.75	74	46.25	149	46.56	171	53.44
Home Science	113	70.63	47	29.37	42	26.25	118	73.75	155	48.44	165	51.56
Business Ed.	92	57.50	68	42.50	81	50.63	79	49.37	173	54.06	147	45.94
Agriculture	57	35.63	103	64.37	96	60.00	64	40.00	153	47.81	167	52.19

Overall, the state of the possession of relevant textbooks by the student teachers in these subjects has not good as only one subject-Business Education - registered an over 50% possession of textbook. The rest of the subjects registered less than 50% in the area of the students possessing relevant textbooks in these subjects.

Closely linked to the above was the state of the supply of relevant teaching/learning materials in these subjects during lessons.

From Table 24, the female students felt that they were supplied with adequate materials during their lessons in Homescience and Business Education i.e. 75.63% and 56.25% respectively. Most of them felt they did not have adequate materials in Agriculture. Music (57.5%) and Art/Craft (68.13%) also ranked unfavourably in the supply of materials to this category of students.

On the other hand, the male students felt that the subject in which adequate materials were best supplied was Music (63.75%) followed by Business Education (60.63%) and Agriculture (51.25%).

Incidentally both the male and female students ranked Business Education as the second best catered for subject in the supply of materials - albeit with

Table 24

Adequacy of Teaching/Learning Materials

	FEMALES N = 160				MALES N = 160				TOTAL N = 320			
SUBJECT	Yes	%	No	%	Yes	%	No	%	Yes	%	No	%
Art/Craft	51	31.88	109	68.13	39	24.38	121	75.63	90	28.13	230	71.85
Music	68	42.50	92	57.50	102	63.75	58	36.25	170	53.13	150	46.88
Homescience	121	75.63	39	24.38	66	41.25	94	58.75	187	58.44	133	41.56
Business Ed.	90	56.25	70	43.75	97	60.63	63	39.38	187	58.44	133	41.56
Agriculture	48	30.00	112	70.00	82	51.25	78	48.75	130	40.63	190	59.38

different approval ratings - i.e. 51.25% for females and 60.63% for males. While the female students ranked Agriculture last in the supply of materials (30%) the male students ranked Art/Craft last in the same area (24.38%). These differences in approval ratings could be attributed to the students' varying attitudinal dispensations towards the subjects, background knowledge in the subjects as well as their exposure to appropriate facilities and materials etc.

Overall, the subjects with the best ratings in the supply of materials were Homescience and Business Education both tying at 58.44% followed by Music (53.13%). Agriculture ranked fourth in the rating (40.63%) while Art/Craft is the subject where least was done in the area of supply of teaching and learning materials (28.13%).

The vocational subjects, by their nature, are practical subjects. These are subjects that are best learned through the students practically getting involved in the learning process. They lend themselves easily to the educational principle of 'learning by doing'. As such, in seeking to ingrain the underlying processes of these subjects in the learners, it is better

that the tutors engage the students in the learning process through adopting methodologies that lend themselves easily to the students actively performing certain learning activities. These methods may include discussions, projects, excursions etc.

Following the above, the researcher sought to find out how many projects the students had engaged in since their admission in the colleges. Table 25 summarises this aspect.

From Table 25, it is evident that very few projects, if any, were undertaken by the students in these subjects. Music tutors seemed to be the leading lot in being averse to the provision of projects to the students. Sixty five percent of the student respondents indicated they did not have any project in Music for the entire time they had been in the colleges. This was followed by Homescience 51.25% and Business Education cames third 43.13%. In all the subjects, the percentage of respondents indicating they had five projects or more was minimal. This was a total of 13.13% in Art/Craft, 4.06% in Music, 21.26% in Agriculture, 10% in Business Education and 7.50% in Homescience.

The trainee teachers who attempted these subjects at the secondary school 'O' level examinations differed according to the subjects. Table 26 shows the subjects attempted at 'O' level.

TABLE 25

Projects done by Students in the Subjects

No.	Art/Craft		Music		Agriculture		B.Ed.		Homescience	
	No	%	No	%	No.	%	No.	%	No.	%
0	105	37.81	208	65.00	90	28.13	138	43.13	164	51.25
1	51	15.94	36	11.25	51	15.94	50	15.63	53	16.56
2	33	10.31	12	3.75	20	6.25	29	9.06	9	2.81
3	56	17.50	33	10.31	23	7.19	42	13.13	63	19.69
4	33	10.31	18	5.63	68	21.25	29	9.06	7	2.19
5	14	4.38	4	1.25	46	14.38	13	4.06	10	3.13
6	25	7.81	8	2.50	11	3.44	13	4.06	9	2.81
7& above	3	0.94	1	0.31	11	3.44	6	1.88	5	1.56

TABLE 26

Students' Attempting Subjects at 'O' Level Examinations

SUBJECT	Females (N=60)				Males (N=60)				Total (N=320)			
	Yes		No		Yes		No		Yes		No	
	No	%	No	%	No	%	No	%	No	%	No	%
Art/Craft	2	1.25	158	98.75	4	2.50	156	97.50	6	1.88	314	98.13
Music	2	1.25	158	98.75	3	1.88	157	98.13	5	1.56	315	98.44
Homescience	83	51.88	77	48.13	-	-	-	-	83	25.94	237	74.06
Agriculture	3	1.88	157	98.13	17	10.63	143	89.38	20	6.25	300	93.75
Commerce	4	2.50	156	97.50	9	5.63	151	94.38	13	4.06	307	95.94

From the table it can be clearly seen that these subjects were attempted by very few students at their '0' level examinations. In Art less than 2% of all the student respondents indicated they had attempted the subject at '0' level.

In Music only five (1.56%) of the respondents actually attempted the subject at the '0' level. The most attempted subject at the '0'level was Homescience. In all, eighty three (25.94%) of the respondents attempted the subject.

The second most attempted subject was Agriculture where a total of twenty (6.25%) students attempted it. Of these three of them (0.94%) were females and seventeen (5.31%) were males.

As for those subjects related to Business Education - Commerce and Economics - a total of thirteen (4.06%) students attempted the subjects at '0' level. Of these students four (1.25%) were females while nine (2.81%) were males.

The students identified certain specific areas in each of the subjects that presented them with problems during their studies and advanced several reasons for

these difficulties. Appendix K summarizes the students' reaction to this aspect of the research.

In Art/Craft, the most serious problem area seemed to be woodwork where 15.65% and 13.13% of the female and male students respectively seemed to feel it was a problem area. Overall, 14.38% of the students present this as the most serious problem in Art/Craft. This is followed by metalwork where 10.94% of the students indicated it was a problem area. Leatherwork is next with 10.63% of the students indicating it as a problem area.

The reasons why the various areas in Art/Craft were cited as problem areas by the students ranged from insufficiency of resource materials and poor background in the subject by the students to lack of adequate practice by the students on various aspects of the subject.

In Music, crotchets and barlines emerged as the most prominent problem areas to the students. Overall; 14.06% of the students cited those areas as their main problem. About 13% of these were females while 15% were male. This was followed by the keyboard where 12.5% of the female students and 11.88% of the male students felt it

was a problem in their learning of Music. Scales ranked third as a problem area with 11.25% of the female and 6.88% of the male students citing it as a stumbling block in their learning of Music. It is instrumental to note that in both cases (male and female) it was less than 20% of the students were are confident enough to say that they did not experience any problem in learning Music. Overall, only 17.5% of the students indicated they had no problem in Music.

The contributing reasons cited by students for the difficulty in learning the different aspects of Music included difficulty to know various instruments from different communities, lack of materials, poor background in the subject, lack of adequate practice in the subject, complicated symbols and difficulty in changing from one key to another using intervals.

Homescience presented various problems. While most of the female students (15%) indicated 'fibres' as their problem area followed by pattern cutting (11.75%), clothing and textile (9.38%) and stitches (8.25%). Most of the male students (19.38) cited stitches as their problem area. This was followed by fibres (17.50%) pattern cutting (11.88%) and needlework (10.63%).

Overall, most of the students (16.25%) cited fibres as a problem area followed by pattern cutting (11.56%).

Incidentally, while all the male students cited at least a certain aspect of Homescience as a problem area a sizeable percentage of the female students (30%) indicated the fact that they did not have any problem in Homescience.

According to those who indicated problem areas in the subject, the reasons for the problems cited centred on poor background in the subject and non-availability of materials in the subject.

Quantitatively, Business Education presented the least number of problem areas. These problems were bookkeeping, balance sheet, Business Records, Cheques and international trade. Considering each of these problem areas, most of the female students (18.75%) indicated that business records was the major problem area while 17.50% of the male students indicate this to be so. This was followed by balance sheet whereby 18.13% of the female students indicated it to be a problem area while 13.75% of the male students indicated this to be the problem area. While 13.75% of the male students cited cheques as a problem area, this was seen as a problem by

13.13% of the female students. Overall, the most serious problem in the subject seemed to be business records with 18.13% of the students indicating it as a problem area. This was followed by balance sheet (15.94%) Cheques (13.44%) bookkeeping (9.38%) and international trade (8.75%).

While 32.5% of the female students indicated they had no problem in the subject, 36.35% of the male students expressed the same sentiment bringing it to an overall percentage of 34.38% of those students who had no problem in the subject.

The reasons cited by the students as being responsible for these problems were lack of enough reference textbooks, lack of adequate teaching and learning aids, a generally poor background in the subject and, specifically, a poor background in Mathematics.

Agriculture presented various problems to the student-teachers. These problems were agricultural records, fertilizer calculations, agricultural economics, manures and fertilizers, pests and diseases, livestock breeding, weeds and weed control, animal breeds, farm tools and soil Ph. Among the female students, the most serious problem area in Agriculture seems to be soil Ph

where 16.25% of the students felt it posed a problem to them. This was closely followed by agricultural economics (15%), fertilizer calculations (13.13%) pests and diseases (12.50%) and records (11.75%). The other problem areas were cited by less than 10% of the female students as shown in Appendix K.

Among the male student-teachers, soil Ph and fertilizer calculations rank first in the list of problem areas. Both were cited by twenty two (13.75%) of the students as being problem areas. These were followed by agricultural economics whereby twenty (12.50%) of the students indicated it as a problem area. The other problem areas outlined above were cited by less than 10% of the male student-teachers as problem areas.

Ten female students (6.25%) indicated they had no problems in learning agriculture while twenty one (13.13%) of the male students were of the same opinion.

Overall, the most prevalent problem area in agriculture was soil Ph where forty eight (15.00%) of the students indicated it was a problem area. This was progressively followed by agricultural economics (13.75%), fertilizer calculations (13.44%), pests and diseases (10.63%). Livestock breeding was the problem

cited by the least number of students i.e thirteen (4.06%). On the whole, thirty-one students (9.69%) felt they had no problem in learning agriculture.

Those who identified various problem areas gave various reasons which they felt were responsible for the difficulties they experienced in the subject. These were wide topics in the subject, very few (and in most cases no) reference books, lack of practice in learning the subject - i.e. in most cases learning is theoretical. There were no trips to places of agricultural interest such as Agricultural Society of Kenya shows or to national farms such as those managed by Agricultural Development Corporation (ADC) or even to farms run by successful farmers around the colleges. On addition, poor background in the subject and, generally, lack of materials for the effective learning of the subject were cited as reasons for difficulties.

The principals', tutors' and students' questionnaire revealed several factual aspects that impinged on the teaching and learning of the subjects. These were the factors that were experienced by the administrators (principals), tutors and students in their day to day teaching and learning of these subjects.

ATTITUDES TOWARDS VOCATIONAL SUBJECTS

The tutors' and students' dispensation to the subjects studied in any school curriculum is important. This affects the students' and tutors' perception of the subjects. The curriculum consumers' attitudes towards the curriculum package to a large extent either help in the attainment of its objectives or imped their achievement. This depends on whether the attitudes towards the curriculum are positive or negative. If they are positive, they help reinforce the consumers' drive towards accomplishing what is contained in the educational package. On the other hand, if they are negative they act as distractors from what is contained in the school instructional programme and hence hinder his or her drive towards the attainment of the objectives set out in the school's or institution's educational package.

ANALYSIS OF DATA OBTAINED FROM THE TUTORS' ATTITUDES TOWARDS VOCATIONAL SUBJECTS SCALE

The tutors attitudes were sampled through the use of a five point attitudinal scale. This research tool covered such aspects as the tutor's view of the subjects they taught vis-a-viz the other subjects in the curriculum, their liking or dislike in teaching the

subjects, how they viewed their training in preparing them to teach the subject(s), how well prepared colleges were to handle these subjects and students' responses to the subject(s). The tutors' attitudinal scale yielded the results summarized in Tables 27-31.

Art/Craft

From Table 27, it can be seen that most tutors (75%) viewed the teaching of Art/Craft as quite difficult compared to other subjects. Much as they expressed this feeling, a majority of the tutors teaching Art/Craft (58.33%) indicated they enjoyed teaching the subject.

The tutors' interest in Art/Craft in the colleges was quite low. A majority of the respondents (58.33%) felt most tutors showed little interest in the subject.

Most tutors of Art/Craft felt that their teacher training was not as instrumental in their teaching as their field experience. According to them (66.67%) field experience contributed more to their teaching competence than teacher training. This indicates that the teaching experience was rated higher than the teacher training program to this subject. A large percentage (75%) of the Art/Craft tutors felt that there was need to update the tutors teaching the subject. This was to be done through the organization of inservice courses in the subjects.

TABLE 27

Tutors Attitudes Towards Art/Craft

	Variable	Agree		Undecided		Disagree	
		No.	%	No.	%	No.	%
1.	Teaching Art/ Craft not easy	9	75.00	2	16.67	1	8.33
2.	Enjoy teaching Art/Craft	7	58.33	1	8.33	4	33.33
3.	Enjoyed secondary school lessons in Art/Craft	7	58.33	1	8.33	4	33.33
4.	Tutors interested in Art/Craft	4	33.33	1	8.33	7	58.33
5.	Field experience more useful in Art/Craft teaching	8	66.67	1	8.33	3	25.00
6.	Art/Craft inclusion in KCPE uplifted it	7	58.33	3	25.00	2	16.67
7.	Teacher training preparation adequate in Art/craft teaching	5	41.67	1	8.33	6	50.00
8.	Colleges not adequately equipped in Art/Craft	7	58.33	2	16.67	3	25.00
9.	Need to inservice Art/Craft tutors	9	75.00	1	8.33	2	16.67
10.	Response to Art/ Craft Negative	4	33.33	2	16.67	6	50.00

N = 12

Business Education

Most of the tutors teaching Business Education felt that teaching the subject was easy. Over 50% of the tutors felt that teaching the subject was easier than teaching the other subjects. Only 33.33% of the tutors of Business Education held a contrary opinion on this issue. In line with the foregoing, 60% of the tutors felt that they enjoyed teaching the subject. Less than 30% of the tutors felt they did not enjoy teaching Business Education (Table 28).

The respondents indicated that generally, there was a high interest in Business Education from other tutors 53.33% of the respondents felt that their colleagues were positively inclined towards Business Education. Only 33.33% felt other tutors did not show positive response to the subject while 13.33% were undecided.

Contrary to the enthusiasm to the subject as far as teaching it was concerned, most of the tutors of Business education were undecided about their liking for Business Education in their secondary schools. Some 46.67% of the tutors expressed indecision about this aspect while only 33.33% felt they liked the subject at secondary school level and 20% were categorical that they disliked it.

TABLE 28

Tutors Attitudes Towards Business Education

	Variable	Agree		Undecided		Disagree	
		No.	%	No.	%	No.	%
1.	Teaching Business Education	5	33.00	2	13.33	8	53.33
2.	Enjoy teaching B/Education	9	60.00	2	13.33	4	26.67
3.	Tutors interested in B/Education	8	53.33	2	13.33	5	33.33
4.	Enjoyed secondary school lessons in B/ Education	5	33.33	7	46.67	3	20.00
5.	Field experience more useful in B/Education	7	46.67	2	13.33	6	40.00
6.	B/Education inclusion in KCPE uplifted it	6	40.00	3	20.00	6	40.00
7.	Teacher training preparation adequate in B/Education teaching	9	60.00	1	6.67	5	33.33
8.	Colleges not adequately equipped in B/Education	5	33.33	1	6.67	9	60.00
9.	Need to inservice B/Education	9	60.00	4	26.67	2	13.33
10.	Response to B/ Business negative	4	26.67	1	6.67	10	66.66

N = 15

As far as the role of field experience compared to teacher training was concerned, most tutors expressed the view that field experience was more useful in their teaching than teacher training. Over 46% of the tutors of Business Education found field experience more useful than teacher training while 40% had a contary view.

Generally, the Business Education tutors felt their teacher training in Business Education was adequate (60%) and that the response to the subject was generally positive (66.66%), see Table 28.

Homescience

Most Homescience tutors felt that teaching the subject was easy compared to the teaching of other subjects. A high percentage (57.89%) of the tutors teaching Homescience were of this opinion. Only two (10.53%) of the Homescience tutors expressed indecision on this aspect. It is therefore not surprising that 63.16% of the Homescience tutors indicated they enjoyed teaching the subject with only 15.79% of the tutors expressing the feeling that they did not enjoy teaching the subject (Table 29). Much as the Homescience tutors expressed this positive opinion towards the teaching of

the subject, a large percentage of them (59.89%) expressed the feeling that the other tutors did not show much interest in the subject. Those tutors expressing indecision and responding positively to the idea of tutors' interest in the subject were evenly divided - i.e. 21.05% respectively.

The majority of tutors were categorical that they enjoyed secondary school lessons in Homescience. However, those who were undecided (21.05%) and those who categorically felt they did not enjoy secondary school lessons in Homescience were, cummulatively, 57.89%. This is a high percentage which may point at the fact that the state of teaching the subject at the secondary school level needed to be re-examined and strengthened.

As far as teacher training vis-a-vis field experience is concerned, 42.11% of the respondents rated field experienced as being more useful than teacher training in their handling of the subject in the field. However, a similar percentage felt that field experience was not as useful as teacher training.

A large percentate (73.68%) felt that there was need to inservice Homescience tutors if they were to deliver their materials as competently as possible with a similar percentage expressing the feeling that the attitudes towards Homescience were, generally, positive.

TABLE 29

Tutors Attitudes Towards Homescience

	Variable	Agree		Undecided		Disagree	
		No.	%	No.	%	No.	%
1.	Teaching H/science not easy	6	31.58	2	10.53	11	57.89
2.	Enjoy teaching H/science	12	63.16	4	21.05	3	15.79
3.	Tutors interested in H/science	4	21.05	4	21.05	11	59.89
4.	Enjoyed sec. school lessons in H/science	8	42.11	4	21.05	7	36.84
5.	Field experience more useful in H/science teaching	8	42.11	3	15.79	8	42.11
6.	H/science inclusion KCPE uplifted it	11	57.89	3	15.79	5	26.32
7.	Teacher training preparation adequate in H/science teaching	10	52.63	3	15.79	6	31.58
8.	Colleges not adequately equipped in H/science	7	36.84	1	5.26	11	57.89
9.	Need to inservice H/science tutors	14	73.68	3	15.79	2	10.53
10.	Response to H/science Negative	4	21.05	1	5.26	14	73.68

N = 19

Agriculture

Tutors teaching agriculture were evenly split between those who viewed the teaching of the subject as being hard and those who viewed this aspect favourably. Both of these formed 41.18% of the respondents (Table 30). Those undecided on this aspect formed 17.65%. On the other hand, a majority of the tutors (58.82%) felt they enjoy teaching the subject. Only 23.53% disagreed and 17.65% were undecided on this aspect.

As far as tutors' interest in the subject was concerned, 52.94% reported the tutors were interested in the subject while 35.29% were of the opinion that tutors were not interested in Agriculture.

Most tutors were ambivalent about their high school lessons in Agriculture. Those who were undecided on whether or not they enjoyed their secondary school lessons in Agriculture formed a high percentage of 52.94% with only 23.53% indicating they enjoyed their high school studies in Agriculture. Combined with those who categorically indicated they did not enjoy secondary school lessons in Agriculture, the undecided and disagree categories formed 76.47%. This is a high percentage

which may point to the unsatisfactory state of this subject in the secondary schools in Kenya.

On the question of preparation for teaching, 52.94% of the respondents felt their teacher training courses prepared them well for teaching. In spite of this, a similar percentage felt that their field experience rather than teacher training input was more useful in moulding them into effective agriculture tutors. Most of the Agriculture tutors felt the tutors needed inservice courses and 52.94% felt that the response to Agriculture was negative.

Music

A large proportion of the Music tutors felt that teaching Music was not easy. Much as such a large percentage felt that teaching Music was not easy, a larger proportion (76.47%) felt that they enjoyed teaching the subject.

A considerable percentage of tutors were not interested in Music. This is borne out by the fact that 47.06% of the respondents indicated the tutors were not interested in this subject. Only 23.53% of the respondents felt tutors were interested in Music.

TABLE 30

Tutors Attitudes Towards Agriculture

	Variable	Agree		Undecided		Disagree	
		No.	%	No.	%	No.	%
1.	Teaching Agriculture	7	41.18	3	17.65	7	41.18
2.	Enjoy teaching Agriculture	10	58.82	3	17.65	4	23.53
3.	Enjoyed secondary school lessons in Agriculture	9	52.94	2	11.76	6	35.29
4.	Tutors interested in Agriculture	4	33.53	9	52.94	4	23.53
5.	Field experience more useful in Agriculture teaching	9	52.94	2	11.76	6	35.29
6.	Agriculture inclusion in KCPE uplifted it	8	47.06	2	11.76	7	41.18
7.	Teacher training preparation adequate in Agriculture teaching	9	52.94	2	11.76	6	35.29
8.	Colleges not adequately equipped in Agriculture	11	64.71	-	-	6	35.29
9.	Need to inservice Agriculture tutors	12	70.59	3	17.65	2	11.76
10.	Response to Agriculture Negative	9	52.94	3	17.65	5	29.41

N = 17

As far as the tutors' feelings about secondary school Music lessons is concerned, a large percentage felt they enjoyed their lessons in this subject. This category of tutors formed 47.06% of the respondents with 23.53% of the respondents indicating they did not enjoy their lessons in Music at the secondary school level. Most tutors (82.35%) felt that the teacher training component did not contribute as much to their teaching as field experience. Most of them felt field experience was more useful in their teaching chores than the teacher training. Only 11.76% felt otherwise on this aspect of the research. Most tutors approved of the inclusion of Music in the Kenya Certificate of Primary Education examination. Over 70% of the tutors felt that this step had made many people be positively inclined towards the subject. Only 17.65% of the tutors felt that this action had not changed peoples' attitudes towards the subject.

As far as the question of teacher preparation in Music was concerned, most tutors felt that their training was adequate. More than 50% of the tutors felt that the training component was adequate preparation for the teaching assignment (Table 31). However, 41.06% of the tutors felt the training was inadequate.

Most tutors (76.43%) felt there was need for the Music tutors to undergo inservicing or refresher courses so as to be competent in their teaching as well as be positively inclined towards Music.

Generally, most tutors felt that the response to Music was positive. This was the feeling of 47.06% of the tutors.

TABLE 31

Tutors Attitudes Towards Music

	Variable	Agree		Undecided		Disagree	
		No.	%	No.	%	No.	%
1.	Teaching Music not easy	10	58.82	-	-	7	41.18
2.	Enjoy teaching Music	13	76.47	1	5.88	3	17.65
3.	Tutors interested in Music	4	23.53	5	29.41	8	47.06
4.	Enjoyed Sec. School lessons in Music	8	47.06	5	29.41	4	23.53
5.	Field experience more useful in Music teaching	14	82.35	1	5.88	2	11.76
6.	Music inclusion in KCPE uplifted it	12	70.59	2	11.76	3	17.65
7.	Teacher training adequate preparation for Music teaching	9	52.94	-	-	8	47.06
8.	Colleges not adequately equipped in Music	7	41.18	1	5.88	9	52.94
9.	Need to inservice Music tutors	13	76.43	1	5.88	3	17.65
10.	Response to Music Negative	7	41.18	2	11.76	8	47.06

N = 17

ANALYSIS OF DATA OBTAINED FROM THE STUDENTS ATTITUDES TOWARDS VOCATIONAL SUBJECTS SCALE.

The students' attitudes were recorded through the use of a two point student's attitudinal scale (Appendix G). This tool was designed to cc1lect the students' feelings in such aspects as their liking for the subjects, their rating of the subjects' levels of difficulty vis-a-vis the other subjects in the curriculum, their confidence levels as far as their projected performance in the teachers' examination was concerned, whether or not, they found learning these subjects interesting, their dispensation towards these subjects by way of the amount of private study time devoted to studying each of these subjects, how much encouragement they got from their peers and tutors to study these subjects and which of the subjects they would drop were the subjects optional. The students, attitudinal dispensation is shown in Tables 32-36.

Art/Craft

From Table 32, while most female students, (51.88%), expressed a dislike for Art/Craft, 69.38% of the male students indicated they liked Art/Craft. Only 30.63% of the male students expressed a dislike for the subject. On the whole, 58.75% of the students expressed a liking

for Art/Craft while 21.25% indicated they did not like the subject.

Most female students (55.63%) rated Art/Craft harder than other subjects. This was the opinion of only 43.13% of the male students. On the other hand 44.8% of the female and 56.88% of the male students disagreed with this feeling.

A large proportion of the female students (65.63%) were not confident about their likely, performance in Art/Craft in the Primary Teachers' Examination. However, more than 50% of the male students expressed confidence in their performance in the PTE examination.

While most male students (51.25%) found learning Art/Craft interesting, only 44.88% of the female students shared this feeling. Overall, more than 50% of the students thought it was not interesting to learn Art/Craft. This feeling was reflected in the time spent on studying Art/Craft. While 48.75% of the female students spent most of their study time studying Art/Craft, an almost similar percentage (49.38%) of the male students did the same. On the whole, 50.94% of the students indicated they did not spend most of their time studying Art/Craft.

Both groups of students (male and female) were in agreement that there was too much work in Art/Craft. On

the side of the female students, 54.38% of the students expressed this opinion while 56.88% of the male students were of the same feeling.

Most of the students agreed that their tutors encouraged them to study the subject (Table 32). However, when it came to the posibility of dropping Art/Craft, 72.50% of the female students and 47.50% of the male students expressed the view that if Art/Craft was an optional subject, they would have dropped it. On the whole, 60% of the students expressed the wish to drop the subject.

Business Education

Most female tudents (58.75%) indicated they did not like Business Education, unlike 51.50% of their male counterparts who had a positive response to this variable. Generally, 49.38% of the students were positively inclined towards Business Education while 50.63% indicated they did not like the subject. In addition, 51.25% of the female students felt Business Education was harder than other subjects with 48.75% of the female students expressing the feeling that the subject was not as hard as other subjects. On the side of the male students, 36.88% of the students felt

Table 32

Students' Attitudes Towards Art/Craft

	Females (N=160)				Males (n=160)				Total (N=320			
	Agree		Disagree		Agree		Disagree		Agree		Disagree	
Variable	**No.**	**%**	**No**	**%**	**No.**	**%**	**No**	**%**	**No.**	**%**	**No**	**%**
1. I Like Art/Craft	77	48.13	83	51.88	111	69.38	49	30.63	188	58.75	132	41.25
2. Art/Craft harder than other subjects	89	55.63	71	44.38	69	43.13	91	56.68	158	49.38	162	50.63
3. Unsure of performance in Art/Craft	105	65.63	55	34.37	71	44.38	89	55.63	176	55.00	144	45.00
4. Learning Art/Craft interesting	75	44.88	85	53.13	82	51.25	78	48.75	157	49.06	163	50.94
5. Spend most time studying Art/Craft	78	48.75	82	51.25	79	49.38	81	50.63	157	49.06	163	50.94
6. Too much work in Art/Craft	87	54.38	73	45.63	91	56.88	69	43.13	178	55.63	142	44.38
7. Friends encourage me to study Art/Craft	79	49.38	81	50.63	56	35.00	104	65.00	135	42.19	185	57.81
8. Tutors encourage me to study Art/Craft	91	56.88	69	43.13	91	56.88	69	43.13	182	56.88	138	43.13
9. If subjects were optional, I would drop Art/Craft	116	72.50	44	27.50	76	47.50	84	52.50	192	60.00	128	40.00

Business Education was hard with the rest expressing a contrary feeling. Generally, most students (55.94%) felt the subject was not as hard as other subjects (Table 33).

While 46.25% of the female students were unsure about their likely performance in the Primary Teachers' Examination in Business Education, an almost similar percentage (48.13%) of the male students were of the same feeling. Generally, most students were confident about their performance in the PTE - with 52.81% of the total student respondents indicating they were sure about their performance in the teachers' examinations.

Most female students (54.38%) and male students (61.25%) indicated they found learning Business Education interesting. A majority of the students (57.81%) thought learning Business Education was interesting.

Some 41.25% of female students spent most of their time studying Business Education. On the other hand, 47.50% of the male students did the same. On the whole, 44.38% of the students spent most of their time studying Business Education, unlike 55.63% who expressed a different feeling.

Most male students (51.88%) felt there was too much work in Business Education. This feeling was shared by only 43.13% of the female students.

Table 33
Students' Attitudes towards Business Education

	Females (N=160)				Males (n=160)				Total (N=320			
	Agree		Disagree		Agree		Disagree		Agree		Disagree	
Variable	No.	%	No	%	No.	%	No	%	No.	%	No	%
1. I like B/Education	66	41.25	94	58.75	92	51.50	68	42.50	158	49.38	162	50.63
2. B/Education harder than other subjects	82	51.25	78	48.75	49	36.88	101	63.13	141	44.06	179	55.94
3. Unsure of performance in B/Education	74	46.25	86	53.75	77	48.13	83	51.88	151	47.19	169	52.81
4. Learning B/Education interesting	87	54.38	73	45.63	98	61.25	62	38.75	185	57.81	135	42.19
5. Spend most time studying B/Education	66	41.25	94	58.75	76	47.50	84	52.50	142	44.38	178	55.63
6. Too much work in B/Education	69	43.13	91	56.88	83	51.88	77	48.13	152	47.50	168	52.50
7. Friends encourage me to study B/Education	69	43.13	91	56.88	78	48.75	82	51.25	147	45.94	173	54.06
8. Tutors encourage me to study B/Education	81	50.63	79	49.38	81	50.63	79	49.38	162	50.63	158	49.38
9. If subjects were optional I would drop B/Education	106	66.25	54	33.75	62	38.75	98	61.25	168	52.50	152	47.50

Table 33
Students' Attitudes towards Business Education

	Females (N=160)				Males (n=160)				Total (N=320			
	Agree		Disagree		Agree		Disagree		Agree		Disagree	
Variable	**No.**	**%**	**No**	**%**	**No.**	**%**	**No**	**%**	**No.**	**%**	**No**	**%**
1. I like B/Education	66	41.25	94	58.75	92	51.50	68	42.50	158	49.38	162	50.63
2. B/Education harder than other subjects	82	51.25	78	48.75	49	36.88	101	63.13	141	44.06	179	55.94
3. Unsure of performance in B/Education	74	46.25	86	53.75	77	48.13	83	51.88	151	47.19	169	52.81
4. Learning B/Education interesting	87	54.38	73	45.63	98	61.25	62	38.75	185	57.81	135	42.19
5. Spend most time studying B/Education	66	41.25	94	58.75	76	47.50	84	52.50	142	44.38	178	55.63
6. Too much work in B/Education	69	43.13	91	56.88	83	51.88	77	48.13	152	47.50	168	52.50
7. Friends encourage me to study B/Education	69	43.13	91	56.88	78	48.75	82	51.25	147	45.94	173	54.06
8. Tutors encourage me to study B/Education	81	50.63	79	49.38	81	50.63	79	49.38	162	50.63	158	49.38
9. If subjects were optional I would drop B/Education	106	66.25	54	33.75	62	38.75	98	61.25	168	52.50	152	47.50

Generaly, most students (52.50%) did not feel there was too much work in Business Education.

Most of the male and female students felt that their friends did not encourage them to study Business Education (51.25% and 56.88% respectively). However, 50.63% of both groups of students felt their tutors encoruaged them to study Business Education.

Most female students (66.25%) expressed the feeling they could have dropped Business Education had it been an optional subject while only 38.75% of the male students had a similar feeling. On the whole, more students (52.50%) felt they would have dropped the subject had it been optional.

Homescience

Homescience seems to attract favourable responses more from the female students than male students. As far as liking for the subject was concerned, 71.25% of the female students indicated they liked the subject. This response attracted only 27.50% of the male students. While 69.38% of the female students felt Homescience was not a hard subject to study compared to other subjects, 58.13% of the male students were of the opinion that Homescience was a hard subject. Overall, while 50.63% of the male students did not like the subject, 55.63% of the students felt the subject was not as hard as other subjects.

Table 34
Students' Attitude Towards Home Science

	Females (N=160)				Males (n=160)				Total (N=320			
	Agree		Disagree		Agree		Disagree		Agree		Disagree	
Variable	No.	%	No	%	No.	%	No	%	No.	%	No	%
1. I like H/Science	114	71.25	46	28.75	44	27.50	116	72.50	158	49.38	162	50.63
2. H/Science harder than other subjects	49	30.63	111	69.38	93	58.13	67	41.88	142	44.38	178	55.63
3. Unsure of performance in H/Science	61	38.13	99	61.88	114	71.25	46	28.75	175	54.69	145	45.31
4. Learning H/Science interesting	94	58.75	66	41.25	91	56.88	69	43.13	185	57.81	135	42.19
5. Spend most time studying H/Science	124	77.50	36	22.50	47	29.38	113	70.63	171	53.44	149	46.56
6. Too much work in H/Science	70	43.75	90	56.15	121	75.63	39	24.38	191	59.69	129	40.31
7. Friends encourage me to study H/Science	83	51.88	77	48.13	44	27.50	116	72.50	127	39.69	193	60.31
8. Tutors encourage me to study H/Science	96	60.00	64	40.00	97	60.63	63	39.38	193	60.31	127	39.69
9. If subjects were optional I would drop H/Science	49	30.63	111	69.38	121	75.63	39	24.38	170	53.13	150	46.88

Most male students (71.25%) were uncertain about how they would perform in their teachers' examinations in Homescience. This was almost double the percentage (38.13%) of the female students who had a similar feeling. Overall, 54.69% of the students expressed uncertainty about their performance in Homescience in the PTE (Table 34).

Most male students (56.88%) found learning Homescience interesting. Female students with similar sentiments formed 58.75% of the respondents. While 77.50% of the female students spent most of their time studying Homescience, only 29.38% of the male students did the same.

Most of the female students found the work load in Homescience normal. This category of female students represented 56.15% of the respondents. However, 75.63% of the male students felt that there is too much work in Homesceince. Only 43.75% of the female students felt that there was too much work in the subject.

Most female students (51.88%) felt that their friends encouraged them to study the subject. Most male students (72.50%), on the other hand were of the feeling that their friends did not enourage them in the study of

the subject. Only 27.5% of the male students felt their friends offered them encouragement to study the subject.

While 30.63% of the female students felt they would drop Homescience if it were optional, 75.63% of the male students were of the same opinion. This showed that most male students were not positively inclinded towards the study of Homescience.

Agriculture

The analysis of students' attitudes to Agriculture revealed that most male students (79.38%) indicated a liking for the subject. On the contrary an almost similar percentage (72.50%) of the female students indicated they did not like the subject. In line with this, most female students (68.13%) indicated Agriculture was harder than other subjects. On the other hand, 28.75% of the male students were of similar opinion. A majority of the male students (71.25%) felt Agriculture was not as hard as other subjects. On the whole, 51.56% of the students felt Agriculture was not as hard as the other subjects in the primary teacher education curriculum.

Table 35

Students' Attitude towards Agriculture

	Females (N=160)				Males (n=160)				Total (N=320			
	Agree		Disagree		Agree		Disagree		Agree		Disagree	
Variable	**No.**	**%**	**No**	**%**	**No.**	**%**	**No**	**%**	**No.**	**%**	**No**	**%**
1. I like Agriculture	44	27.50	116	72.50	127	79.38	33	20.63	171	53.44		46.56
2. Agriculture harder than other subjects	109	68.13	51	31.88	46	28.75	114	71.25	155	48.44	178	51.56
3. Unsure of performance in Agriculture	97	60.63	63	39.38	79	49.38	81	50.63	176	55.00	145	45.00
4. Learning Agriculture interesting	45	28.13	115	71.88	131	81.88	29	18.13	176	55.00	135	45.00
5. Spend most time studying Agriculture	777	48.13	83	51.88	101	63.13	59	36.88	178	55.63	149	44.38
6. Too much work in Agriculture	88	55.00	72	45.00	79	49.38	81	50.63	167	52.19	129	47.81
7. Friends encourage me to study Agriculture	80	50.00	80	50.00	81	50.63	79	49.38	161	50.31	193	49.69
8. Tutors encourage me to study Agriculture	113	70.63	47	29.38	99	61.88	61	38.13	212	66.25	127	33.75
9. If subjects were optional I would drop Agriculture	57	60.63	63	39.38	60	37.50	100	62.50	157	49.06	150	50.94

While a majority of female students (60.63%) indicated they were unsure about their performance in the Primary Teachers' Examination in Agriculture, 50.63% of the male students indicated confidence about their performance in the same examination. Over 28% of the female students indicated learning Agriculture was interesting with the remaining 71.88% indicating learning Agriculture was not interesting. On the other hand, 81.88% of the male student found learning Agriculture interesting. Generally, 55% of the students indicated that learning Agriculture was interesting (Table 35).

A large percentage (51.88%) of the female students did not spend most of their time studying Agriculture. However, 63.13% of the male students put in most of their time studying Agriculture.

Most female students (55%) felt there was too much work in Agriculture with only 49.38% of the male students feeling the same. Much as 60.63% of the female students indicated a readiness to drop

Agriculture if it were optional, only 37.50% of the male students were of the same feeling.

Music

From Table 36, most female students (56.88%) indicated a dislike for Music while 51.88% of the male students felt they liked Music. While 58.13% of the female students felt learning music was much harder than other subjects, 48.75% of the male students were of the same feeling. Generally, 53.44% of the students rated the learning of Music as being interesting.

Much as most of the female students did not like Music, slightly more than half of them (50.63%) nevertheless, felt sure about their performance in the primary teachers' examinations. A slightly higher percentage (56.25%) of the male students felt sure about their performance in the primary teachers' examination in Music.

The percentage of female students who felt learning Music was interesting was higher than that of the male students who felt the same - 53.75% and 46.25% respectively.

While most female students (50.63%) spent most of their time studying Music, only 43.13% of the male students did the same. Generally, only 46.88% of the students spent most of their time studying Music.

Table 36
Students Attitude towards Music

	Females (N=160)				Males (n=160)				Total (N=320			
	Agree		Disagree		Agree		Disagree		Agree		Disagree	
Variable	No.	%	No	%	No.	%	No	%	No.	%	No	%
1. I Like Music	69	43.13	91	56.88	83	51.88	77	48.13	152	47.50	168	52.50
2. Music harder than other subjects	93	58.13	67	41.88	78	48.75	82	51.25	171	53.44	149	46.56
3. Unsure of performance in Music	79	49.38	81	50.63	70	43.75	90	56.25	149	46.56	171	53.44
4. Learning Musicinteresting	86	53.75	74	46.25	74	46.25	86	53.75	160	50.00	160	50.00
5. Spend most time studying Music	81	50.63	79	49.38	69	43.13	91	56.88	150	46.88	170	53.13
6. Too much work in Music	82	51.25	78	48.75	78	48.75	82	51.25	160	50.00	160	50.00
7. Friends encourage me to study Music	72	45.00	88	55.00	83	51.88	77	48.13	155	48.44	165	51.56
8. Tutors encourage me to study Music	82	51.25	78	58.75	82	51.25	78	48.75	164	51.25	156	48.75
9. If subjects were optional, I would drop Music	81	50.63	79	49.38	79	49.38	81	50.63	160	50.00	160	50.00

Most female students (51.25%) felt there was too much work in Music. However, only 48.75% of the male students felt the same. Generally, the students were evenly divided on the question of amount of work in Music - i.e. 50% felt there was too much work while a similar percentage felt otherwise.

Most male students (51.88%) felt their friends encouraged them to study Music. On the other hand, only 45% of the female students felt the same. From Table 36, it can be seen that while 50.63% of the female students expressed the feeling they would have dropped Music were it optional, 49.38% of the male students held a similar opinion.

ANALYSIS OF DATA CONCERNED WITH CLASSROOM INTERACTIVE SCALE

Curriculum implementation involves among other things the active transmission of the curriculum content by the teachers to the learners. This is the stage whereby the teachers employ different strategies to effectively pass on the content to the learners. Much as it depends on the professional training of the teachers and the knowledge and skills they possess in the area of education, its success is largely dependent on the

methods the teacher employs in order to elicit the most conducive atmosphere in the teaching/learning process. This depends on the subject being taught as well as the topic at hand. In other words, there is no standardised classroom atmosphere.

However, current child-centred theories favour participatory approaches in the teaching/learning process. As much as possible, the teachers are expected to actively involve the learners in what is being learnt. Much as teacher guidance in this teaching/learning process is indispensable, it should be such that, as much as possible, it does not overshadow the pupils' active search for the knowledge of what is being taught. As such, learning by doing is seen as the most effective approach to learning.

As stated earlier, vocational subjects are essentially practical subjects. The content of these subjects is best learnt by the learners actively carrying out the activities entailed in the various content areas prescribed by the syllabus - for the pupils' ages and the teachers' judgement of the learners' learning abilities.

Teachers are role models in their societies, more so in their schools. Their social and professional conduct

are imitated by not only the larger society but, the tutors' methods of teaching, to a large extent, influence the teacher-trainee. The teacher trainee takes after his tutor in the methodology to be adopted in his teaching. It may be said that a teacher teaches in the same way he was trained.

In this study, an observation of teaching by both the tutors and the teacher trainees (during their teaching practice) was undertaken with a view to establishing whether the methods adopted by both the tutors and teacher trainees gave their respective learners dominance in their class or not. In view of the fact that participatory methods generally elicit better learning than teacher dominated approaches and, also bearing in mind that the subjects under study are essentially practical subjects in which learning is better attained through the students being given as much time as possible to express themselves and practically engage in the performance of concrete activities designed to enable them to practically learn how to create certain items in these subjects, it was pertinent to find out the teaching approaches adopted by the tutors and the trainees in these subjects. Table 37 shows the tutors' and the trainees interaction approaches in their respective classes in each of the subjects under study.

Table 37

Interaction Analysis: Tutors and Student Teachers

			Art/Craft Tutors =12 Students=16		Home science Tutors =19 Students=16		Agriculture Tutors =17 Students=16		Music Tutors =17 Students=16		Business Education Tutors =15 Students=16	
			f	Total	f	Total	f	Total	f	Total	f	Total
INDIRECT INFLUENCE	1. Accepts feeling: accepts and clarifies feeling of students/pupils	T % S %	4 (8.00) 3 (6.82)		4 (8.70) 4 (8.89)		3 (6.67) 4 (8.51)		4 (8.00) 3 (6.67)		4 (8.16) 4 (8.70)	
	2. Praises or encourages student action or behaviour, jokes	T % S %	4 (8.00) 3 (6.82)		4 (8.70) 4 (8.89)		4 (8.89) 4 (8.51)		4 (8.00) 4 (8.89)		3 (6.12) 3 (6.52)	
	3. Accepts/uses/clarifies/ builds/ develops ideas by students pupils.	T % S %	3 (6.00) 4 (9.09)		3 (6.52) 3 (6.67)		4 (8.89) 3 (6.38)		5 (10.00) 4 (8.89)		4 (8.16) 4 (8.70)	
	4. Asks questions about content/procedure for students or pupils to answer	T% S %	5 (10.00) 4 (9.09)	(1-4) (32.00) (1-4) (31.82)	4 (8.700 3 96.670	(1-4) (32.62) (1-4) (31.12)	4 (8.89) 4 (8.51)	(1-4) (33.34) (1-4) (31.91)	5 (10.00) 4 (8.89)	91-4) (36.00) (1-4) (33.34)	4 (8.16) 4 (8.70)	(1-4) (30.60) (1-4) (32.62)
	5. Lectures/gives factors or opinions about content/procedure	T % S %	8 (16.00) 5 (11.36)	6 (13-04) 7 (15.56	8 917.390 7 915.56)		7 (15.56) 8 (17.02		7 (14.00) 7 (15.56)		8 (16.33) 8 (17.39)	
DIRECT INFLUENCE	6. Gives directions/ commands/orders with which students comply	T % S %	7 (14.00) 7 (15.9)	(5-7) (46.00) (5-7) (43.18)	6 (13.04) 7 (15.56)		6 (13.33) 6 (12.77)		7 (14.00) 7 (15.56)		7 (14.29) 6 (13.04)	
	7. Criticises/justifies authority: statements intend to change behaviour	T % S %	8 (16.00) 7 (15.91)		7 (15.22) 7 (15.56)	(5-7) (45.65) (5-7) (46.68)	7 (15.56) 7 (14.89)	(5-7) (44.45) (5-7) (44.68)	8 (16.00) 6 (13.33)	(5-7) (44.00) (5-7 (44.45)	7 (14.29) 6 (13.04)	(5-7) (44.91) (5-7) (43.47)

Table 37 cont.

STUDENT TALK	8. Student -talk-response: talk in response to teacher	T	4		4		4		4		5	
		%	(8.00)		(8.70)		(8.89)		(8.00)		(10.20)	
		S	4		4		4		4		4	
		%	(9.09)		(8.89)		(8.51)		((8.89)		(8.70)	
	9. Student talk-initiation: talks by students/ pupils which they initiate	T	3	(8-9)	3	(8-9)	3	(8-9)	3	(8-9)	3	(8-9)
		%	(6.00)	(14.00)	(6.52)	(15.22)	(6.67)	(15.56)	(6.00)	(14.00)	(6.12)	(16.32)
		S	3	(8-9)	3	(8-9)	3	(8.9)	3	(8-9)	3	(8-9)
		%	(6.82)	(15.91)	(6.67)	(15.56)	(6.38)	(14.89)	(6.670	(15.56)	(6.25)	(15.22)
SILENCE OR CONFUSION	10 Silence/confusion pauses/silence during which conversation not under-	T	4		3	(6.52)	3		3		4	
		%	(8.00)	(8.00)	(6.52)	(6.67)	(6.67)	(6.67)	(6.00)	(6.00)	(8.16)	(8.16)
		S	4		3		4		3		4	
		%	(9.09)	(9.09)	(6.67)		(8.51)	(8.51)	(6.67)	(6.67)	98.70)	(8.70)
	Total	T	50	100	46	100	45	100	50	100	49	100
		S	44	100	45	100	47	100	45	100	46	100

Key:
T=Tutors
S= Student-teachers
f=Frequency

Tables 37 and 38 give a summary of the tutors' percentage interaction ratios in each of the subjects under study.

From Tables 37 and 38 it is clear that the tutors dominate the classroom atmosphere in all the subjects. This dominance was highest in Music (80%) but was equally highly noticeable in all the other subjects - with over 70% tutor dominance. In all the subjects, it is again noticeable that the tutors tended to be more direct in their influencing the learning than indirect. In all the subjects, the student-talk is less than 20% with the highest student - talk being in Agriculture i.e 6.67%. A notable factor is that even in student-talk, the tutors' influence was dominant in the sense that in a majority of cases, the student - talk was tutor-initiated. The student - initiated talk was less than 7% in all the subjects.

The student-teachers' interaction analysis shows that, as was the case with their tutors, they too dominated their classes during their teaching practice. This domination of their classes was more often direct. However, inspite of the fact that they dominated their classes, they did so at a percentage lower than was the case with their tutors, except for the case of Business Education in which they were more dominant than their tutors - i.e. 76.09% against the

TABLE 38

SUMMARY OF TUTOR INTERACTION RATIO

		ART/ CRAFT	MUSIC	AGRIC- ULTURE	HOME SCIENCE	BUSINESS EDUCATION
TUTOR TALK	INDIRECT INFLUENCE	32%	36%	33.34%	32.62%	30.60%
	DIRECT INFLUENCE	46%	44%	44.45%	45.65%	44.91%
TOTAL TUTOR TALK(%)		78%	80%	77.79%	78.27%	75.51%
STUDENT TALK	TUTOR-INITIATED	8%	8%	8.89%	8.70%	10.20%
	STUDENT-INITIATED	6%	6%	6.6%	6.52%	6.12%
TOTAL STUDENT TALK(%)		14%	14%	15.56%	15.22%	16.32%
SILENCE/CONFUSION(%)		8%	6%	6.67%	6.52%	8.16%
TOTAL(%)		100%	100%	100%	100%	100%

TABLE 39

SUMMARY OF STUDENT-TEACHER INTERACTION RATIO

		ART/ CRAFT		MUSIC	AGRIC- ULTURE	HOME SCIE- NCE	BUSINESS EDUCAT- ION
STUDENT TEACHER TALK	INDIRECT INFLUENCE	31.82%	33.34%	31.91%	31.12%	32.62%	
	DIRECT INFLUENCE	43.18%	44.45%	44.68%	46.68%	43.47%	
TOTAL STUDENT-TEACHER TALK (%)		75%	77.79%	76.59%	77.80%	76.09%	
PUPIL TALK	STUDENT TEACHER INITIATED	9.09%	8.89%	8.51%	8.89%	8.70%	
	PUPIL-INITIATED	6.82%	6.67%	6.38%	6.67%	6.52%	
TOTAL PUPIL TALK(%)		15.91%	15.56%	14.89%	15.56%	15.22%	
SILENCE/CONFUSION(%)		9.09%	6.67%	8.51%	6.67%	8.70%	
TOTAL(%)		100%	100%	100%	100%	100%	

tutors' 75.51%. Pupil participation in the trainees teaching practice lessons was, generally, higher than the trainees' participation in class activities during their instruction by the tutors. This was so in the cases of At/Craft, Music and Homescience. However, in Agriculture and Business Education, the pupils' participation was less than was the case at colleges - 14.89% and 15.22% against 15.56% and 16.32% respectively at the colleges. This aspect is summarised in Table 39.

SUMMARY

The issues raised in this Chapter paint a fairly distressing picture in the training of teachers in the area of primary education in Kenya. These issues revolve around materials, facilities, attitudes, numerical strength of the manpower in this area, professional competencies and the sheer lack of opportunities for training of the teachers for this sector of the education system.

These issues need to be addressed. Chapter five provides recommendations as to how this may be done and suggests areas that merit further research.

CHAPTER FIVE

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

INTRODUCTION

This study was undertaken with the objective of finding out the nature of training the primary school teachers are getting in the preservice programme of primary teacher education in Kenya. This was to be done in the context of the 8-4-4 prevocational curriculum and with specific regard to the concept of self-reliance as espoused by the 8-4-4 education system. Specifically, the study was to:

(i) find out the adequacy of the teaching/learning materials and facilities in the area of vocational education in the primary teachers' colleges in Kenya.

(ii) analyse the trainees' and tutors' attitudes towards the vocational subjects taught in

Kenya's primary schools and primary teachers' colleges.

(iii) assess the methods employed by the tutors in training the teacher trainees in vocational subjects.

(iv) appraise the state of staffing in the area of vocational education in Kenya's primary teachers colleges.

(v) appraise the professional training of tutors in the area of primary school vocational education.

(vi) appraise the tutors' experience in the area of primary education.

(vii) Make suggestions, consequent on the findings in i - vi above, on ways of correcting any weaknesses in the area of vocational education in primary teachers' colleges.

Principals' Responses

From the principals' demographic data sheet and principals interview schedule whose summary observations have been presented in chapter four, several issues came to light as far as the question of the training of primary school teachers in the area of vocational education was concerned. In the first instance, it was revealed through the principals' questionnaire that most of the tutors in the primary teachers' colleges were of graduate academic and (or) professional qualification. These formed 98.18% of all the teaching staff in the samples colleges (Table 1). The remaining 1.32% comprised of the diploma holders.

There was a very high staff turnover in the colleges. Most of the principals in the research sample (62.5%) indicated that most of their tutors stayed in the colleges for periods ranging from only two to four years. Otherwise, only one principal indicated most of his staff stayed in the college for over five years.

The quality of tuition in any educational institution depends on various factors among which are the student numbers involved. It is evident from the study that there was quite a high student enrolment in

the colleges. In a majority of the cases, each year of study comprised of not less than five hundred students in each college. On average, therefore, each college had more than one thousand students. These large enrolments in the colleges inevitably translated themselves into fairly large class sizes. Each class in the colleges helds an average of 45 students (Table 2).

Against this large number of students on one hand was a comparatively fewer number of classrooms in the colleges. On average, each college had about 22 classrooms. Given that, on average, each college had a student population of 1034 (Table 2), then each classroom held about 47 students. This was a way above the recommended optimum student population of 40 per class.

The vocational subjects being essentially practical, and in line with the overall philosophy of self-reliance in the 8-4-4 education system, require that for effective tuition, these subjects be taught practically. This practical element especially in such subjects as Art/Craft requires the availability of specialised rooms in the colleges. The rooms enable the tutors and students to undertake the practical application of the theory elements in the subjects. The study revealed that, on average, there were two specialised rooms in

each of the teachers' colleges. These rooms were expected to be used by an average of 1034 students per college (Table 2) and the college staff. From the study, only 12.50% of the sample colleges had rooms exclusively for use by the students while in 50% of the cases, the rooms were used by the college staff only. In the remaining 37.50% of the colleges, the rooms were used by both students and the college staff.

In line with the above, a majority of the Principals were in agreement on the fact that there were inadequate facilities in the colleges for the effective teaching and learning of these subjects. In Music, seven (87.5%) of the Principals indicated they did not have adequate facilities in the subject; five (62.5%) indicated so in Homescience; six (75%) in Agriculture and five (62.5%) in Business Education and Agriculture (Table 5).

In spite of the fact that, on average, the colleges had large tracts of land (about 84 acres per college) the study found out that the land was little used. Very few of the colleges had made any attempt to be self-reliant in foodstuffs used in the colleges or engage in any other agricultural activities suitable in their locality. On average, less than 1% (0.89) of the land in the colleges was used for the growing of maize while only 0.58% of the

land was used for the growing of beans. These two food items are what may be said to be the staple diets in the colleges and yet they were hardly grown by the colleges. On the side of cash crops, tea and coffee were isolated as the most grown crops. Generally 0.15% and 0.24% of the total land acreage in these colleges was used for the cultivation of tea and coffee respectively. The most popular form of animal husbandry undertaken in the colleges is the keeping of cattle with an average of 18.22% of the land indicated as used for this purpose. Pigs and poultry accounted for only 1.05% and 1.42% of the land used respectively.

As a corollary to the above, most of the colleges indicated they were deficient in various food items. All the colleges indicated they were deficient in the major food components - maize and beans. This applied to even the colleges situated in the major maize and bean growing areas of Western Kenya. The same was the case with vegetables. The only element of self-sufficiency was noted in milk (two colleges) and eggs (one college). Since the above foodstuffs were essential in the smooth running of the colleges, the only recourse available to the colleges was to acquire them externally (i.e. buy them from external suppliers). As such, the foodstuffs - maize and beans - ranked high as externally acquired

food items - i.e. 91.38% and 96.25% respectively. Eggs, milk and vegetables were 85%, 73.13% and 79.75% externally acquired respectively.

In spite of the above discouraging scenario in the case of self-reliance in crop and animal products in the colleges, it was encouraging that several items were produced by the students in their daily class activities. These items were such as charts, paintings, lamp shades, coffee tables, sugar dishes, sewing materials, fringe mats, clothes, cookies and musical instruments. However, a surprising finding was in the case of Art/Craft and Music where two (25%) and seven (87.5%) of the colleges indicated that their students produced nothing in these subjects! This gaves the impression that in these colleges, the lessons in these subjects were wholly theoretical and nothing was produced by the students and tutors as a way of practically learning the subjects.

All the eight teachers' colleges indicated they had canteens or shops. In spite of the existence of these inherent learning areas, none of the Principals indicated they were of any educational value. In 37.5% of the cases, these shops and canteens were rented to outsiders while a similar percentage indicated the canteens were

run by the students. In the remaining cases (25%) the canteens were run by college workers.

Reacting to the hypothetical question of what the departments would have contributed in the event of a "harambee", a number of Principals were of the view that they would not have contributed anything. This category of respondents formed 25% in Art/Crafts, 37.5% in Music, 25% in Agriculture, 25% in Business Education and 12.5% in Homescience.

Various problems were identified by the Principals as far as the teaching and learning of these subjects was concerned. These problems were such as lack of special rooms, expensive text books, congested syllabi, expensive practicals and lack of adequately trained staff. As far as the staff shortfall was concerned, there was an overall shortfall of twenty four (12.06%) of staff in all the subjects. The worst hit area was Art/Craft with nine tutors lacking (21.43%). This was followed by Homescience with five (12.5%) and Agriculture with four tutors' (10.26%) shortfall.

Rarely were the tutors visited by the field educational supervisory staff. In a majority of cases, the field education staff had visited the colleges only

once in a year. Only one college reported three supervisions of its tutors in Homescience in a year. Otherwise a fair number of the colleges reported nil supervision in all the subjects.

Tutors' Responses

The study revealed that a majority of the tutors in the primary teachers' colleges were relatively young. Most of them (63.75%) are in the 20-40 year age bracket. This was a good aspect in teacher education as far as continuity in these subjects was concerned. A large category of the tutors were male. Only 30% of the tutors teaching these subjects were female. As far as the subject distribution of these tutors was concerned, it was notable that while all the tutors for Homescience were female, all the tutors for Business Education and Agriculture were male. On the other hand, two tutors (16.67%) for Art/Craft and three, tutors (17.65%) for Music were females.

Most of the tutors in the colleges were graduates while the other categories - diploma, SI and Approved tutors formed approximately 40%. The subject that had the highest number of graduate tutors was Business Education (73.33%) followed by Music and Homescience -

70.59% and 68.42% respectively. On the other hand, most of the tutors for Agriculture were diploma holders (64.71%). The SI and A.T.S. tutors were most visible in Art/Craft and Homescience where they constituted 33.33% and 15.7% respectively.

It was evident from the study that most of the tutors teaching these subjects never actually studied them at the high school level. For example, in Art/Craft, only seven tutors (58.33%) studied either Art or Industrial education at high school while only three (17.65%) of the Music tutors studied the subject at high school. As far as Business Education and Agriculture are concerned, only two (13.33%) and six (35.29%) of the Business Education and Agriculture tutors respectively studied the subjects at high school. It was only Homescience that had all its tutors having studied the subject at high school. Overall, only thirty seven (46.25%) of the tutors of these subjects studied them at high school level. From the findings of the study, all those who attempted these subjects at high school obtained a pass in the subjects.

Most of these tutors studied these subjects under the old 7-4-2-3 system of education. Only one tutor in

Business Education attempted the subject under the current 8-4-4 system of education.

At the Kenya Advanced Certificate of Education level, Art/Craft showed a slightly reduced number of its tutors as having attempted the subject at this level compared to the ordinary level of education - i.e. six (50%) instead of seven (58.33%). On the other hand, there was a notable increase in Business Education i.e. eight (53.33%) against two (13.33%) at 'O' level. This increase at 'A' level could be attributed to the private candidates that may have attempted the subject in such subjects as economics or commerce.

An interesting finding in the study was the fact that a sizeable percentage of the tutors in these subjects never actually studied the subjects at their teacher training levels. Overall, this category of tutors accounted for 47.5% of all the tutors. Music had the highest number of trained tutors teaching the subject i.e. 70.59%. This was followed by Art/Craft (66.67%) and Business Education (53.33%). On the other hand, Homescience registered the lowest percentage of these tutors (36.84%) followed by Agriculture (41.18%).

Generally, very few of the tutors in primary teachers' colleges had any experience in primary teaching. Only twenty seven (33.75%) of the tutors in the sample had actually had the experience of teaching in a primary school. Music had the highest number of tutors who had had direct experience in primary school teaching. Thirteen (76.47%) of the Music tutors indicated they had taught at the primary school before venturing into teaching at primary teachers' colleges. This was followed by Art/Craft in which five of the tutors (41.67%) had taught at primary schools. Agriculture had the least number of tutors of this category - only two (11.76%). In all cases, twenty one tutors (26.25%) had an experience of upto four years of primary teaching while the remaining six tutors (7.5%) had a primary teaching experience of not less than five years (Table 14).

The tutors' responses clearly showed that there was lack of essential facilities and materials in the colleges that would enable the tutors to teach these subjects more effectively. Sixty two (77.5%) of the tutors felt they did not have adequate teaching materials. All the tutors in Art/Craft indicate the materials were inadequate while sixteen (84.21%) of the Homescience tutors were of the same opinion. Eleven

tutors (73.33%) in Business Education, twelve (70.59%) in Music and eleven (64.71%) in Agriculture indicate they do not have adequate materials and facilities.

Seventy percent of all the tutors in these subjects thought the text-books in these subjects were inadequate while 67.5% felt the rooms available for the teaching of these subjects were inadequate. A majority of the tutors (78.75%) felt that the classes were too big for effective teaching to be done (Table 15).

Several problem areas in each of the subjects were identified by the tutors. These were such areas as leather work, wood work, puppetry, fabric design, lithography, weaving, building construction and metal work in Art/Craft. In Music, playing of musical instruments, playing western music, methodology, and theory of music were identified as the problem areas. Clothing and textiles, practical cookery, foods and nutrition, laundry and needlework were the major problem areas in Homescience while in Business Education, the tutors identified accounts, office practice and business records as the major problem areas. The Agriculture tutors expressed discomfort with such topics as farm structures, crop diseases, fertilizer calculation, farm tools and equipment, fish farming, soil ph, practical

crop production, livestock management and agricultural economics.

Several reasons were listed by the tutors for these apparent problems. Among the reasons listed were lack of training in the problem areas at the teacher training colleges, lack of materials and equipment, inadequate time to cover the wide syllabus, lack of adequate room or space for effective teaching, lack of expertise in the areas by the tutors and, generally, low interest in the area(s) by the students (see Table 16).

By its nature, teacher training in Kenya may be described as being a two-tier training process. In the first instance, there is what may be said to be the residential component which involves the students being taught in the class the basics of what teaching is all about. This component is usually mainly theoretical with little attempt, if any, being made at the practical demonstration of teaching by the teacher trainee. The second component is the practical teaching component in which the teacher trainees are posted to the target schools and for a designated period, depending on the course, try to put into practice what they would have

learned in the theory lessons. For all the time that this happens the students are supervised by the college tutors.

As far as the practical component is concerned, the tutors reported several weaknesses noted in the students. A general weakness noted among the students was their apparent inability to relate theory to practice. The other weaknesses were specific to individual subjects. For example, in Music, the most notable weaknesses were such as their inability to make and perform music and problems in teaching harmonic minor scales. It was noted that they could not play musical instruments, neither were they able to use traditional musical instruments. In Art/Craft, the main problem areas were the inability of the student-teachers to break topics into sub-topics and inability to demonstrate what they wanted pupils to make. It was also felt by the tutors that the students were, in most cases, too theoretical and lacked the ability to improvise.

The main problems of students in Business Education were reported to be in the area of accounting and research i.e. the students were lacking in the area of

gathering appropriate information for their lessons either from the libraries or any other centres or sources of information.

In Homescience, the problem areas were identified as food and nutrition, clothing and textiles and general inadequacy in content. Soil profile, vegetative propagation and mineral deficiencies were identified as the students' main weak areas in Agriculture during their teaching practice.

Given the above, fifty tutors (62.5%) were of the opinion that the students' performance in the subjects during their practical teaching sessions was not adequate. These inadequacies in students' teaching practice were attributed to various reasons. The reasons given by the tutors for the inadequate performance of their trainees in teaching practice varied according to each subject. In Music, the main reasons for the inadequacies were identified as being lack of enough musical skills among the trainees, lack of adequate practice in Music during their training, lack of musical instruments in both the training colleges and the primary schools and the inadequate time available for the organization and performance of music practically.

As for Art/Craft, the tutors identified reasons for the poor performance in the subject during teaching practice as the trainees' lack of basic knowledge in art, lack of adequate materials in the subject, the attitude among most of the students that art was for the gifted learners and lack of special teaching rooms for the subject both at the primary schools and the colleges. The Homescience tutors identified the reasons as being lack of special teaching rooms at the primary schools, poor background knowledge in the subject, difficulty to translate theory into practice, poor preparation by student teachers for teaching practice, inadequate practice in making and using teaching aids and poor attitudes to the subject - especially among the male students. Business Education tutors felt that their students performed poorly in the practical teaching component of their training because of poor background knowledge in the subject by the trainees, poor background in Mathematics, lack of adequate and relevant text books in the subject, negative attitudes to the teaching of the subject due to its mathematical orientation and, generally, students' poor preparation for the practical teaching component of the course. As for Agriculture, the main reasons advanced by the tutors were poor background knowledge in the subject, students' poor preparation for teaching practice, inadequate preparation

in making and using of teaching aids, poor attitudes to the subject and difficulty in experimenting in certain topics - for example, measuring of soil Ph - due to lack of appropriate measuring instruments at colleges and schools.

Generally, the common reasons for the poor performance in teaching practice in all the five subjects were identified as being poor background knowledge in the subject and students' poor preparation for the exercise (Table 17).

In contrast to the apparently negative scenario in the teaching practice component as shown above, most tutors were, generally of the opinion that the student-teachers' performance in their classwork was satisfactory. However, the tutors felt that even in classwork, students experienced problems in the following specific areas: translating theory into practice, pitch and rhythm, theory of music, methodology, triads and transposition, sculpture, leatherwork, drawing and painting, lettering, soils and soil ph, animal production, agricultural economics, foods and nutrition, clothing and textiles, needlework, accounts and business records (Table 18). The reasons for these difficulties were identified as being limited time to cover the

syllabus adequately, poor background in the subjects and/or topics, lack of textbooks and materials for the effective teaching and learning of the topics, belief by the students that the areas referred to were difficult, lack of good knowledge in areas such as chemistry (for the understanding of soil Ph) or mathematics (for the understanding of topics related to accounts or agricultural economics) poor male student attitudes to topics in Homescience, lack of adequate space coupled with large student numbers and female student phobia against mathematics leading to their difficulties in understanding topics that were mathematical in nature (Table 19).

In spite of the many problem areas highlighted by the tutors above and the reasons for these perceived problems, very few of the tutors had attended any inservice or updating courses to enable them perform better and give them confidence to tackle these areas from a point of perceived intellectual and professional strength. Only eighteen tutors (22.5%) from the total sample population of eighty tutors had attended any inservice course in the subjects they taught. The next 77.5% had never attended any inservice or updating course, seminar or workshop in the area(s) that they taught (Table 20).

The most commonly used method of teaching in the colleges was the lecture (77.5%). This was followed by discussion and demonstration (both 57.5%). Projects were given by less than half of the tutors in the colleges (41.25%). Continuous assessment in the colleges mostly took the form of theory written questions (72.5%). Projects came a distant second (45%) while research equally cames a distant third (12.5%). Three tutors (3.75%) indicated they checked on students' written lecture notes as a form of students' continuous assessment.

Students' Responses

As stated earlier, the student population forms the largest group in any educational setting. They are the immediate active consumers of any educational package that is designed in any society. The judgment of the success or failure of an educational enterprise is based on how the students perform not only in their examinations but also how they utilize the knowledge and skills gained in the educational institutions in dealing with their immediate problems and, generally, how they integrate in the larger society. As such, the students' perceptions and feelings about an educational package

designed for them are important in judging the educational system.

In the context of the 8-4-4 system of education, it was important to examine the curriculum offered to the teacher trainees in an effort to make them capable of making their learners self-reliant in their lives - as espoused by the education system. Nowhere in the 8-4-4 curriculum is the idea of self reliance more apt than in the vocational subjects. At the primary schools, these subjects are Art/Craft, Music, Business Education, Agriculture, and Homescience. The training of the teachers in these subjects is of crucial importance in an effort to attain the objectives set in the education system.

With the above in mind, such aspects as the teacher trainees' educational background, perceptions of curricula inputs in terms of pedagogy, materials, resources, and facilities and their feelings towards the subjects under study are important in appraising the teacher education curriculum in vocational subjects.

Many of the teacher trainees indicated they did not have the requisite books in the subjects under study. On

the whole, 63.63% of the students indicated they did not have text books in Art/Craft. This was followed by Music (53.44%) and Agriculture (52.19%). An interesting observation was that while most of the female students (70.63%) opted to buy textbooks in Homescience, most of the male students (60%) chose to buy books in Agriculture and Music (53.75%). This is shown in Table 25. Overall, the state of possession of textbooks by the student-teachers was not good as only Business Education registered an over 50% book possession while the other subjects fell below this mark.

As far as the supply of teaching and learning materials during the lessons was concerned, while most students felt that they were supplied with adequate materials in Homescience, Business Education and Music - 58.44%, 58.44% and 53.13% respectively, less than 50% of the students were of the same opinion as far as Art/Craft and Agriculture were concerned, 28.13% and 40.63% respectively (Table 24).

Most of the female students (60.63%) indicated Homescience was their most popular subject. This was followed by Business Education (51.25%) and Music (48.13%). On the other hand, most of the male students (61.88%) had a preference for Agriculture. This was

followed by Music (56.88%) and Business Education (55.63%). Overall, the students ranked Business Education as their most popular subject (53.44%) followed by Music (52.50%) and Art/Craft (46.88%).

Since these subjects are essentially practical subjects, it was hoped that the tutors deliberately chose to engage their students in activities specially and deliberately tailored to suit the various topics taught in each of the subjects. Among the activities that the tutors were expected to engage the learners into are discussions, excursions and projects. However, in all the subjects it was found out that in a majority of cases, tutors did not give any project to the student-teachers. This scenario accounted for 32.81% (Art/Craft), 65% (music), 28.13% (Agriculture), 43.13% (Business Education) and 51.25% (Homescience). As for those cases in which tutors made an attempt to give projects, most of them gave between one and four projects for all the time the student teachers were at college. This category accounted for 54.06%) (Art/Craft), 30.94% (Music), 50.63% (Agriculture), 46.88% (Business Education) and 41.25% (Homescience). As pointed out earlier, among the reasons cited by the tutors for the poor performance of the student-teachers in either classwork or their practical teaching was poor background

knowledge in the subject by the trainees. This was borne out by the fact most of the students indicated they did not attempt these subjects at their secondary school ordinary level examinations. In Art/Craft, only six students (1.88%) had attempted Art in their 'O' level examinations. In Music, only five (1.56%) attempted the subject while eighty-three (25.94%) attempted Homescience. Twenty (6.25%) students attempted Commerce or Economics at the secondary school 'O' level examination. While most of those who attempted these subjects at the ordinary certificate level in the secondary schools passed, it is noteworthy that of those who attempted these subjects under the previous 7-4-2-3 system of education, fourteen (4.38%) in Homescience, four (1.25%) in Agriculture and two (0.63%) in Commerce/ Business Education/Economics attained a fail grade nine. Only one candidate (0.31%) attained a grade E in Homescience under the 8-4-4 system of education. Incidentally, all those who attempted the subjects under the 8-4-4 system passed except the one candidate in Homescience.

Several problem areas were singled out by the students. These problem areas varied with each subject. In Art/Craft, the problem areas were indicated as being metalwork, building construction, basketry, drawing,

weaving, painting and woodwork. In addition, pattern making, leatherwork, sculpture, tie and dye, modelling, tool names and printing were also areas of concern to the students. Forty seven students (14.69%) indicated they did not experience any problem in this subject. The reasons advanced by the students for these difficulties in Art/Craft were such as insufficient resource materials, poor background in the subject and lack of adequate practice by the students on various aspects of the subject owing to either lack of time or resources.

Music presented such problem areas as musical instruments, music interpretation, minor scales, crochets and barlines, beat notation, keyboard, and scales. Forty six students (17.5%) indicated they did not experience any problem in Music. The contributory reasons cited for this apparent difficulty in Music were lack of materials, diverse community based instruments presenting difficulty in knowing all their names, poor background in the subject and complicated symbols.

In Homescience, stitches, needlework, clothing and textile, cookery, stain removal, laundry work, pattern cutting, serving and fibres were the major problem areas identified by the students. Forty eight students (15%) indicated they did not experience any problem in the

subject. Incidentally, all male students indicated they had a problem or other in the subject (Table 29). Two major reasons were identified for these apparent difficulties. These were poor background by the students in the subject and non-availability of materials in the subject.

Business Education presented the least number of problems to the students. The problem areas were book-keeping, balance sheet, business records, cheques and international trade. While fifty two (32.55) of the female students indicated they had no problem in Business Education, fifty eight male students (36.25%) were of the same opinion. Lack of enough reference books, lack of adequate teaching and learning aids, a generally poor background in the subject and, specifically, a poor background in mathematics were cited by the students as the main reasons for the difficulties experienced in the subject. In Agriculture, agricultural records, fertilizer calculations, agricultural economics, manures and fertilizers and pests and diseases were identified as some of the problem areas. The other problem areas were livestock breeding, weeds and weed control, animal breeds, farm tools and soil Ph. A total of thirty one (9.69%) students indicated they did not experience any problem in Agriculture.

Among the reasons given for the apparent difficulties cited in Agriculture are such as wide topics in the subject, very few and, in most cases, no reference books, lack of practice in the learning of the subject - i.e. most of the topics were learnt theoretically. In addition, the students cited poor background in the subject and, generally, lack of materials for the effective learning of the subject.

Attitudes

Apart from the effect that the physical environment has on the curriculum, the personal feelings of both the tutors and students, and, to some extent, the members of the immediate society also influence the achievement of curricula goals. The feelings of these groups can either reinforce the attainment of the curricula goals or work against the achievement of such goals. This largely depends on whether these feelings are positive or negative to what the educational enterprise seeks to achieve. If the attitudes are positive, they help reinforce the educational goals and positively influence the participants in the education sector in trying to attain the objectives set. On the other hand, if they are negative, they act as distractors and place psychological obstacles in the way the educational

package is perceived and, therefore, retard the progress towards the attainment of the set objectives.

As far as the 8-4-4 prevocational curriculum in Kenya's primary education sector is concerned, there appear to be diverse feelings to different aspects in the education system. These feelings differ according to what is being considered, who is considering it - whether it is tutors or students, and whether these are male or female.

As far as the individual subjects were concerned, it was evident that a sizeable group of tutors in all the subjects perceived these subjects as being quite difficult to teach. This feeling seemed to be quite distinct in Art/Craft where over 70% of the tutors teaching the subject felt so. This was followed by Music (58.82%) and Agriculture (41.18%). However, most of those teaching Homescience and Business Education were of the opinion that the subjects were easy to teach - 53.33% and 57.89% respectively. Nevertheless, inspite of the feelings that these subjects were difficult to teach, it was encouraging to note that most tutors indicated they enjoyed teaching the subjects. Much as most of the tutors expressed satisfaction with their teacher training preparation for the teaching of these subjects, still a

sizeable group of the tutors expressed the feeling that their teacher training did not adequately prepare them for the challenges of practically teaching these subjects. This was especially evident in all subjects Art/Craft (50%), Music (47.06%), Business Education (33.33%), Homescience (31.58%) and Agriculture (35.29%).

As far as the tutors' early experiences in the subject were concerned, most of the tutors either indicated they did not enjoy their secondary school lessons in the subjects or were ambivalent as far as the matter was concerned. It was only in Art/Craft that most of the tutors (58.33%) felt they enjoyed their secondary school lessons. This apparent unfavourable view of the subjects was also reflected in what they felt were the other tutors' feelings about the subjects. Very few tutors showed interest in Homescience, Music and Art/Craft. According to the tutors teaching these subjects, only 21.05%, 33.53% and 33.33% of those tutors teaching these subjects respectively indicated the other tutors showed any interest in the subjects. Otherwise, a majority of the tutors indicated the other tutors showed no interest in the subjects. It was only in Business Education and Agriculture that 53.33% and 52.94% respectively of the tutors felt the other tutors showed interest in the subjects (Tables 28 and 30).

Most of the tutors seemed to be of the feeling that their field experience, other than their teacher training, had been more instrumental in making them better teachers of these subjects. This was the case with 66.67% of the Art/Craft tutors, 82.35% of the Music tutors and 52.94% of the Agriculture tutors. Even if in Business Education and Homescience, the contrary seemed to be true (Tables 28 and 29), the 46.67% and 42.11% respectively of the tutors who seemed to agree with this opinion are high percentages which indicated that, to a large extent, most of the tutors in these subjects credited their field experience other than their training with most of the positive aspects of their teaching.

Most of the tutors in all these subjects were agreed on the fact that there was need to inservice tutors in these subject areas. Those in favour of this training input being instituted in the various subjects were 75% in Art/Craft, 76.47% in Music, 60% in Business Education, 73.68% in Homescience and 70.59% in Agriculture.

On the side of the students, most of the female students (71.25%) indicated their liking for Homescience. This was followed by Art/Craft (48.13%) and then Music (43.13%). The subject least liked by the female students

was Agriculture (27.5%) followed by Business Education (41.25%). On the other hand, most of the male students (79.38%) liked Agriculture. Art/Craft ranked second in liking by the male students (69.38%) while the third subject was Business Education (57.5%). The male students liked Homescience least (27.5%). This was followed by Music (51.88%).

Most of the male students (71.25%) were uncertain in how they would perform in the Homescience teachers' examination at the end of their training course. However, they appeared quite confident in such subjects as Art/Craft (55.63%) and Agriculture (50.63%). On the other hand, most of the female students (61.88%) were quite confident in how they would perform in their examinations in Homescience. They were also fairly confident in Music (50.63%) and Business Education (52.81%). Agriculture and Art/Craft rank last in terms of student confidence in doing well in them during their final examinations with both of them having only a 45% approval rating. Homescience was in the third place with 45.31% (Table 31).

As far as the question of the subject perceived as the most interesting to learn was concerned, most of the female students (58.75%) felt that Homescience was the

most interesting subject to learn. They ranked Business Education second (54.38% and Music third (53.75%). According to the female students, the least interesting subject was Agriculture (28.13%) followed by Art/Craft (46.88%). However, for the male students, Agriculture was their most interesting subject (81.88%). Business Education came second (61.25%) and Homescience third (56.88%). The least interesting subject to them was Music (46.25%) followed by Art/Craft (51.25%).

Generally, most of the students ranked Homescience and Business Education as the most interesting subjects to learn (both 57.81%).

The students also revealed their subject preferences through the amount of the private time they allocated to the study of these subjects. Most of the male students (63.135) used their time studying Agriculture followed by Art/Craft (49.38%) and Business Education (47.5%). Over 70% of the male students used the least of their time in the study of Homescience. This was followed by Music (56.88%). On the other hand, most of the female students (77.5%) spent their time studying Homescience followed by Music (50.63%) and Art/Craft (48.75%).

Most of the female students (56.88%) perceived Business Education as the subject with the least amount of work and this was closely followed by Homescience (56.25%). They perceived Agriculture as the most work - laden subject followed by Art/Craft and Music. On the other hand, most of the male students (75.63%) perceived Homescience as the subject with the heaviest amount of work. This was followed by Art/Craft (56.88%) and Business Education (51.88%). According to the male students, the subject with the least amount of work was Music (51.25%) followed by Agriculture (50.63%).

While most of the male students (51.88%) felt that their peers encouraged them to study Music, most of the female students felt their peers encouraged them to study Homescience. The male students (72.5%) indicated they weree least encouraged by their peers to study Homescience and this was followed by Art/Craft (65%). On the other hand, most of the female students (56.88%) felt least encouraged by their peers to study Business Education followed by Music (55%). Most of the students reported being encouraged by their tutors to study their respective subjects.

Most of the male students (75.63%) indicated that were the subjects optional, they would have preferred to

drop Homescience while most of the female students (72.5%) indicated they would have preferred dropping Art/Craft, Business Education (both 66.25%) and Agriculture (60.63%). There was a high degree of both the tutors and the teacher trainees dominating the teaching/learning process as shown in Tables 32, 33 and 34. The student initiated interaction was on the lower scale in both the tutor and teacher trainees' classes.

CONCLUSIONS

This study, as stated both in chapter one and elsewhere in this report was an attempt to examine the nature of training the primary school preservice teacher trainees received in the practical subjects. These subjects were identified as being Art/Craft, Music, Business Education, Homescience and Agriculture. The relevant data was collected using various research tools as described in chapter three and the appendix. The data so collected has been analysed in chapter four and the findings reported elsewhere in this chapter.

Basing on the data collected and the findings explicated from the same (data), a summary of conclusions were drawn. These conclusions centred on the general

state of learning and teaching of these subjects in the colleges but, specifically, dealt with:

(i) the teaching and learning materials in the subjects studied i.e. Art/Craft, Music, Business Education, Homescience and Agriculture.

(ii) the methods employed in the training of the teacher trainees in these subjects.

(iii) staffing in these subjects.

(iv) the professional training of the tutors teaching these subjects.

(v) the attitudes of both the tutors and student-teachers towards these subjects.

The student enrolment in the colleges was quite high. On average, each college had a student enrolment of over one thousand during any one academic year giving rise to an average class size of about forty seven students per class. This was a way above the optimum class size of forty. These large student enrolments, unfortunately, did not tally with adequate space in the

colleges in the form of classrooms, workshops, laboratories, etc. In each college, there were fewer classrooms than the large college student enrolments would have required. The result was that the large class sizes gave rise to the over-stretching of the tutors in such areas as supervision of students' work, marking of the students' exercises and limited chances of catering for each of the students' unique individual educational problems.

By their nature, vocational subjects are essentially best understood when taught practically. The practical nature of the subjects can only be best realised in the event of the colleges having adequate facilities such as workshops, music rooms, laboratories, homescience rooms etc. These facilities are an essential requirement in any educational institution that aims to translate the spirit of the 8-4-4 practical element into reality. It was evident from the study that in a majority of colleges, these facilities were inadequate. In fact in a subject like Business Education, no single college had realized its practical nature, and, therefore, there did not exist any specially equipped classrooms in any of the colleges for the teaching of these subjects. It is largely perceived to be a theoretical subject devoid of any practical side to it. In those colleges where

workshops existed, these facilities were used by both the students and college maintenance staff - putting further strain on these already limited facilities. From the principals' assessment, all the subject areas lacked the requisite facilities for the effective teaching of these subjects. However, this problem seemed to be more acute in Music and Business Education where over 80% of the principals were of the opinion that the subjects did not have the requisite facilities for teaching them - for example, pianos, guitar and flutes in Music and typewriters, computers, and filing cabinets in Business Education. In all the cases, the shortage was serious as over 60% of the respondents indicated the facilities were lacking. This inhibited the effective delivery of the content by the tutors making the learning of these subjects much more strenuous.

One facility that the colleges had in plenty and, ironically, did not seem to be using it very effectively was land. In all the colleges visited, each college reported having an acreage of eighty four acres of land. The lowest land average possessed by a college was reported as being fifty two acres while the highest acreage reported was one hundred and twenty one acres. Apart from the buildings and playing grounds, most of the land in the colleges lay idle. As Table 6 shows very

little of this land is actively used by the colleges for productive purposes. While it was expected that the colleges play a leading role in translating the 8-4-4 spirit of self-reliance into reality, very few of these colleges, even those lying in the high agricultural potential areas of Western Kenya, did so. Most of the colleges had to acquire their foodstuffs from external suppliers.

On average, the highest land percentage used for the growing of maize was 0.89% (with the highest individual college percentage of 2.2%). Beans, on average, were on a percentage acreage of 0.58% (with the highest individual college percentage of 2.4%). This apparently discouraging scenario was also true with vegetables and potatoes. Cash crops such as tea and coffee occupied an average land acreage of 0.15% and 0.24% respectively. In all the cases, dairy farming was the only activity that had an acreage percentage of over 18% - thanks to two colleges which had a percentage acreage under dairy farming of 40% and 95% hence boosting the average percentage. Otherwise, in all the other colleges, the highest percentage acreage under dairy farming was 3.1%. Poultry and keeping of pigs had an average land acreage of 1.42% and 1.05% respectively.

It can be seen that the most abundant facility - land - was not used by the colleges as expected. The colleges were expected to set a practical example of what self-reliance was all about - especially in those agricultural practices that were in harmony with the geographical and climatic realities in which the individual colleges were situated.

Naturally, following the above, in most of the colleges, it was found out that they were not self-sufficient in foodstuffs. In all the colleges, the principals relied almost entirely on external suppliers for the provision of maize, beans and vegetables. As for milk and eggs, the colleges to a large extent, still depende on external suppliers 73.13% and 85% respectively: Table 8). As pointed out earlier, the colleges had not seriously made any attempt to translate the spirit of self-reliance under the 8-4-4 system of education into practice. As teacher training institutions, this was long overdue in the sense that the teachers they produced were not imbued with the motto and spirit of self-reliance right from their training institutions as it should have been. This would have been a very welcome professional input on the side of the teacher trainees. On the commercial level, it would have made more sense if the colleges made an attempt to be

self-reliant in these basic dietary areas and, therefore, save on the limited financial resources they had.

As far as the class activities were concerned, it was evident that both the students and the tutors were quite prolific in the production of various useful items. These items included charts, paintings, lamp shades, coffee tables, sugar dishes, serving mats, fringe mats, clothes, cookies etc. However, in spite of these apparently impressive achievements in the class activities, there were still respondents who indicated that nothing was produced in some of the subjects. This leads to the conclusion that in some of the cases, the principals, tutors and students perceived these subjects as essentially theory subjects devoid of any practical element to them! This is certainly contrary to what was expected in these subjects.

In all the primary teachers' colleges visited, it was noted that there existed shops (canteens). These canteens were used for various purposes. They were mostly used for the provision of the necessary items to the college community such as soap, toothpaste, salt, bread, cooking fat, medicines. Ironically, when responding to the questionnaire item on this subject, none of the principals indicated any educational value of

these facilities. The principals perceived them mainly as commercial centres where "shareholders share profits and operators get pocket money". They did not see any relevant role that these facilities could play in the teaching and learning of Business Education - especially in such areas as record keeping, display of goods, packaging, advertising, invoicing etc. It was not surprising therefore, that in a majority of the cases, these canteens were run by people other than the students and tutors themselves.

From the findings of this study, it was evident that there were several crucial problems that affected the teaching and learning of these subjects in the colleges. These problems were mainly lack of special rooms for the teaching of the subjects, lack of teaching and learning materials, congested syllabi, inadequate staff and expensive practicals in the subjects. These problems were especially notable in Art/Craft, Music, Agriculture and Homescience. While Business Education seemed not so much affected by the above problems, the main problem in this area seemed to be expensive textbooks.

There was a significant staff shortfall in the subjects. This case was especially noted in Art/Craft where, in the colleges surveyed, there was a shortfall of

nine tutors (24.46%). This was followed by Homescience (12.5%), Agriculture (10.26%) and Business Education (8.57%). Music had the least shortfall of only three tutors (6.98%). This low staff shortfall in Music was attributable to the major transfers of primary school PI and SI teachers who had at least a grade six in the Royal Society of Music examinations to the secondary schools and teachers' colleges to boost the staffing in this area.

The rate of supervision of the tutors by the field education officers iwa quite low. This had been at the rate of at most once in a year in each of the subjects studied. Music registered most of the 'nil' supervisions followed by Agriculture. The best supervised subject was Homescience where some three supervisions were recorded in one of the colleges visited.

The teaching staff are an important component of any educational institution. These are the immediate implementators of the curriculum package to the students. The nature of their training, their attitudes to the subjects they teach and their general welfare are important aspects as far as this sector of educational personnel is concerned because all these have a bearing on the learning the students will get.

Business Education had the highest concentration of graduate tutors followed by Music and Homescience. On the other hand, only half of the Art/Craft tutors were university degree holders while most of the tutors for Agriculture were diploma in education holders. What emerged from the findings of this study was that there was a notable gender tag to the teaching of all these subjects. It was evident that while all the Business Education and Agriculture tutors were male, all the Homescience tutors were female. The female tutors were also sparsely represented in Art/craft and Music. Overall, the colleges were dominated by male tutors (70%) while the female tutors form 30%.

For any teacher to attain the competence necessary for teaching any subject in the curriculum, it is important that the teacher gets professional training in the teaching of the subject. This is even more important for the teacher trainers who are themselves expected to teach others (trainees) how to teach the subjects. What emerged from the data is the fact that while a majority of tutors (52.5%) actually trained in the teaching of these subjects, a sizeable number of the tutors did not have any teacher training input in the teaching of these subjects. This was the case with 33.33% of Art/Craft tutors, 29.41% (Music), 46.67% (Business Education),

63.16% (Homescience) and 58.82% (Agriculture), as shown in table 12.

A small percentage of tutors (33.75%) had practically taught in a primary school and, therefore, had first hand experience about what teaching a primary school child entailed. A majority of the tutors had never taught in a primary school before (Table 15). Music had the highest number of the tutors who had taught in the primary school

In all the colleges visited, the tutors were agreed on the fact that there were inadequate facilities and materials for the teaching and learning of the subjects (Table 15).

There were several topics in these subjects that presented difficulties to the teachers. These areas were leatherwork, woodwork, puppetry, fabric design, lithography, loom weaving, building construction and metal(in Art/Craft); playing of musical instruments, playing of Western music and methodology (in Music); clothing and textiles, practical cookery, foods and nutrition, laundry and needlework (in Homescience). In Business Education, such topics as accounts, office practice and business records were a problem to tutors

while in Agriculture, such topics as farm structures, crops diseases, fertilizer calculations, farm tools and equipment, fish farming, soil Ph, practical crop production, livestock management and agricultural economics present problems to tutors.

As stated elsewhere in this report, these subjects are essentially practical subjects whose understanding is best achieved through the selection of an appropriate method of instruction. Such a method should be one that appeals to as many senses as possible and one so chosen so that the teacher trainees may see its effectiveness and, hopefully, adopt it in their later teaching career. From the findings, it was inferred that the most popular method used in the colleges for the teaching of these subjects was the lecture (77.5%) followed by demonstration and discussion (57.5%). As for continuous assessment, the commonest form of assessment was the theory written examination (72.5%). Practicals and/or projects were administered in only 45% of the cases (Table 22).

Given the many curricula problems cited in each of the subjects by the tutors, the relatively high percentage of tutors who actually never trained in the

teaching of these subjects and the fairly demanding 8-4-4 curriculum, especially in the practical subjects under study, seminars and workshops would have helped in lessening these problems by giving the tutors the knowledge, skills and confidence necessary in dealing with the problems cited. From the study, it was evident that only a small percentage of tutors (22.5%) had attended any inservice course, seminar or workshop in these subjects.

There was a notable significant lack of relevant textbooks in the subjects studied. Overall, Art/Craft was the subject most affected by this aspect. Business Education was the best catered for in this respect. However, what was evident was the fact that the possession of textbooks in these subjects seemed to be determined by the sex of the students. While most of the female students (70.63%) opted to buy textbooks in Homescience, very few of the male students (26.25%) did the same. On the other hand, it was noted that most of the male students (60%) had textbooks in Agriculture as opposed to only 35.63% of the female students (Table 23). This could point to the varied attitudes towards these subjects among the male and female students.

Inspite of the fact that the prevocational subjects are, essentially, practical subjects, there were very few practical activities undertaken in these subjects. These subjects were, to a large extent, taught theoretically. Very few projects were done by the students in order to help in concretising what they learn. The worst hit subjects as far as this aspect was concerned was Music, Homescience, Business Education and Art/Craft where, in over 30% of the cases, no projects had been assigned to the students (Table 25).

Given the fact that most of the teacher trainees were secondary school Form IV leavers, was discouraging that very few of these trainees actually attempted these subjects in their secondary schools. Most of the female students (51.88%) reported having attempted Homescience at their ordinary level examinations. As for the male students, none attempted Homescience at secondary school level. As for all the other subjects - Music, Business Education, Agriculture and Art/Craft less than 30% of the female students attempted them at secondary school level. The most attempted subject at secondary school level as far as the male students were concerned was Agriculture where 10.63% reported having attempted the subject. Otherwise, in all the other subjects, less than 60% of the male students reported having attempted the subject.

This therefore, implied that apart from the tutors having the task of training these students in the art of teaching these subjects, they had the added task of raising the trainees' content level in these subjects to that of at least a Form IV student in order for them to be confident in handling the primary school pupils in these subjects (Table 26).

It was evident that a significant number of students, reluctantly studied these subjects at the colleges because they were not optional. A significant percentage of the female students (44.38%) expressed a dislike for Art/Craft while 54.63% felt they least liked Agriculture. On the other hand, nearly 60% of the male students expressed a dislike for Homescience. They stated categorically that if these subjects were optional they would have dropped them. Going by this, it was clear that a significant percentage of these students were reluctant learners of these subjects. This reluctance was basically related to their attitudes with most of the female students expressing a strong dislike for Art/Craft and Agriculture while most of the male students were averse to learning Homescience.

Apart from a liking and a dislike for individual subjects, students had problems with specific topics in

the study of individual subjects. In Homescience, most students had problems with fibres (16.25%), stitches (14.06) and pattern cutting (11.56%). All male students had one problem or other in learning Homescience while about 30% of the female students indicated they had no problem at all learning the subject.

Art/Craft presented such problem topics as metalwork, woodwork, sculpture, building construction, basketry and tie and dye. While 19.38% of the male students had no problem learning the subjects, only 10% of the female students had the same opinion. In Music, crotchets and barlines, keyboard, beat notation, scales and triads seemed to be the major problem topics. In Business Education the topics that presented problems to the students were balance sheet, business records and cheques. However, a good percentage of the students (34.38%) had no problem learning the subject. Soil Ph, fertilizer calculations, agricultural economics, pests and diseases were the major problem topics in Agriculture (Appendix K).

During their practical teaching experience, the students displayed a variety of weaknesses in each of the subjects. In Music, the major weaknesses noted in the students were their apparent inability to relate theory

and practice, their making and performing music was poor and they showed an inability to make and use musical instruments. In Art/Craft, they displayed a weakness in breaking topics to subtopics, were unable to demonstrate practically what was expected of the pupils, were unable to improvise and were, generally, too theoretical in their teaching. They were also weak in accounting and lesson planning as far as Business Education was concerned while, in Homescience, many students showed weaknesses in lesson planning, practicals, food and nutrition, clothing and textiles and they were patently deficient in content coverage. In Agriculture, soil profile, vegetative propagation and mineral deficiencies were the major areas of weakness among the teacher trainees (Appendix J).

Both the tutors and the teacher trainees were quite dominant in their classes. They adopted methods whereby the student/pupil participation in class activities was highly limited. In both cases, the lecture as a method of instruction was the one mostly used. Even in cases where the students/pupils were given the opportunity to express themselves, teacher and tutor influence was still markedly felt in the sense that most of the student - talk was teacher or tutor initiated (Tables 37, 38 and 39). This inhibited student participation and the

learning of these subjects became dominantly teacher-centred with little student participation. This, definitely, went against the principle of active pupil participation in class - especially in these subjects which are, essentially, practical.

RECOMMENDATIONS

The recommendations made in this report were based on both the field study carried out in the primary teacher's colleges and the personal observation and interviews made by the researcher in both the colleges and the primary schools used by the teacher trainees for the practical teaching component of their course. These recommendations were made in the context of the objectives of the study and the research assumptions as stipulated in Chapter I and elsewhere in this report. Generally, they revolve around the following areas:

(i) the availability of teaching and learning materials in the area of practical subjects in the primary teachers' colleges in Kenya.

(ii) the methods employed by the tutors in the training of the teacher trainees in the subjects under study - viz Music, Art/Craft,

Business Education, Agriculture and Homescience.

(iii) the state of staffing in the subjects studied.

(iv) the tutors' professional training in the subjects under study and

(v) the tutors' and students' attitudes towards the subjects studied.

Teaching and Learning Materials and Facilities

An on site observation of the materials and facilities in the colleges pointed to the fact that while the government, parents, donors and other parties should be commended for the efforts made to supply the required teaching and learning materials as well as make available the facilities required for an effective teaching and learning environment, much more still remains to be done. This is especially so in the area of Business Education, Art/Craft, Agriculture and Homescience. In view of the above,

(i) the government should make available enough resources for the provision of required materials and facilities for the teaching of these subjects.

(ii) the government, communities and other interested parties should, where necessary, organize self-help drives ('harambee') to raise funds for the purchase and provision of the necessary teaching and learning materials and facilities in the colleges. At the inception of the 8-4-4 system of education (in the early and mid eighties) there were a number of 'harambee' meetings all over the country aimed at raising the necessary funds for the purchase of the teaching/learning materials and provision of such facilities as workshops and laboratories in the primary and secondary schools. Apparently the teachers' colleges were not catered for in these moves hence the present state of these necessities in the colleges. There is need to revisit this area.

(iii) the college administrators, staff and students in the colleges should be called upon to

exercise creativity and discipline in the use of the available facilities in the colleges. My visits to the colleges and the responses from the questionnaires revealed that some of the available facilities in the colleges are not utilised in the way that they should be. These are such facilities as the canteens, shops, workshops, land, tractors etc. For example, rarely are the facilities such as shops and canteens used for educational purposes in such a subject as Business Education. They are seen as purely playing a commercial role in the colleges - not an educational one. Whatever is produced in the workshops by the tutors and students is rarely put to commercial purpose to demonstrate the idea of self-reliance. It is either stored or destroyed. Most of the land in the colleges lies fallow and machinery such as tractors are rarely utilised for agricultural and educational purposes. A prudent use of the available materials and facilities will reduce the pressure for more of these facilities and materials and also help the colleges towards the attainment of self-reliance in some food items. This will help in translating the idea

of self-reliance into reality hence imbuing the learners and other interested parties with the sense of self-reliance in whatever they do.

(iv) the tutors and students should as much as possible try to be creative and improvise some of teaching and learning materials. This will help in redressing the problem of lack of adequate teaching and learning materials and make the tutors' teaching much easier and enjoyable. The student teachers should be encouraged to improvise the teaching and learning materials - especially during their practical teaching sessions.

The Teaching Methods

The delivery of content in a teaching/learning environment depends on variables such as the language of instruction, the availability of the teaching and learning materials, the general environment of the learning venue and, to a large extent, the method used by the teacher/tutor in the delivery of the content. In subjects such as the ones under study, while the oral versatility of the tutor is important, he has also to

deliberately incorporate other media in the teaching/learning situation. Therefore, as far as the teaching and learning of the vocational subjects is concerned, the following recommendations are envisaged to help in the general delivery of content:

(i) as much as possible, the tutors should try and involve the trainees in the activities taking place in the class. This should be through such activities as requiring the trainees to answer certain questions and involving them in discussions. This will make the lessons less tutor-centred in nature and more student - centred hence enhancing the learning of the subjects. The teaching should not be wholly through lecture.

(ii) as much as possible, the tutors should adopt the project method in the teaching of the subjects. This would enable the student-teachers to learn by doing certain specified activities related to the topic(s) at hand. It would stimulate their thinking and creative capacities make the learners engage in more meaningful learning.

(iii) the teaching should, as much as possible, be related to real life situations. The learners should actually carry out certain activities. For example, in Agriculture, most of the teaching and learning should be in a real situation such as a farm, a piggery, cattle shed etc. This will expose the learners to the actual situations hence enable them to comprehend better what they are learning.

(iv) when the trainees are preparing for their teaching practice, it would be advisable for the tutors to organize demonstration lessons with the real target pupil groups so that the trainees could learn practically from their tutors how to teach the pupils. For example, the tutors could organize with neighbouring primary schools so that the pupils from the schools could be used in demonstration lessons based on the existing primary school syllabus. During these demonstration sessions, the tutors could prepare lessons, as per the primary school syllabi, in their subjects and

teach the pupils as the teacher trainees observe. This would give them a first hand experience of how to handle the various aspects in a primary school class.

(v) much as it is appreciated that most of the tutors in the teachers' colleges are university graduates, there is an inherent loop hole in the way these tutors are prepared at the universities for their teaching assignments. The university programmes for the Bachelor of Education courses do not have the primary methods of teaching. They are mostly geared to the secondary school teaching. When these graduates are posted to the primary teachers' colleges, they find themselves ill adapted to the teaching that requires them to train the trainees in how to teach a primary school child. Given this fact, it is recommended that:

(a) the primary methods of teaching be incorporated in the teaching methods section of each teaching subject at the universities.

(b) the Bachelor of Education (Primary Option) and Master of Education (Primary Teacher Education) courses be revived and strengthened.

(c) the new university graduands posted to the primary teachers' colleges be given college based induction courses in how to teach at the primary school level and how to assess a lesson in a primary school.

These measures will equip the graduate tutors with the necessary skills to enable them cope with the teaching activities at the primary teachers' colleges competently, improve their performance levels and boost their confidence when handling the students in the colleges.

Staffing:

From the data collected, it is evident that the government has made concerted efforts in redressing the numerical aspect of staffing in the subjects under study. The state of staffing in the subject areas is satisfactory. However, as noted earlier, there is an

overall staff shortfall of about 12.06%. The worst hit area is Art/Craft (21.43%) followed by Homescience (12.5%) and Agriculture (10.26%). These appear low shortfalls but, nevertheless, need attention. In this regard, measures should be taken to redress this imbalance. Another aspect that needs attention is the apparent trend that the subjects (especially Agriculture and Homescience) are staffed on gender lines - i.e. while all the tutors for Agriculture are males all those for Homescience are females. This also applies to Business Education. There is a very low representation of female tutors in Music and Art/Craft. As much as possible, there is need for a gender balance in the staffing in all these subjects in the colleges. This will project not only a sense of equality as far as the teaching of these subjects is concerned but also help in changing the attitude of the learners as far as these subjects are concerned. Given this, there is need to:

(i) deliberately take steps to correct the staff shortfall in in all these subjects in order to reduce the workload on the existing staff as well as boost the academic standards in the subjects.

(ii) as far as possible, encourage the learners at secondary and college levels to embrace these subjects without regard to gender. This will help in attaining gender equality and balance in the staffing in these subjects and practically influence the attitudinal dispensation of the learners to the subjects.

(iii) encourage the colleges to utilise the expertise of resource persons available in their locality. This could be in such areas as masonry, carpentry, bricklaying, leatherwork, playing of traditional musical instruments etc. This would help both the teacher trainees and the tutors to draw on the expertise of these people in these areas and, therefore, help them in the teaching and learning of these subject topics better. This could also help in integrating the colleges and the community - hence fostering better relations between the colleges and the communities.

(iv) in such subjects as Agriculture and Homescience, where there appears to be a big dichotomy between the male and female students

as far as teaching them is concerned, deliberate steps should be taken by the Ministry of Education to attract students of either sex into the teaching of these subjects. This could be through such steps as modifying the diploma college admission requirements in favour of those male students who are interested in teaching Homescience and those female students interested in teaching Agriculture, Art/Craft and Business Education. This will help in reducing the current big numerical imbalance as far as the female and male tutors for these subjects is concerned.

Professional Training

The numerical size of workers in any organisation or profession is not as important as the knowledge and skills that the workers possess. The numerical size may determine the division of work in the organization. However, the performance of this work is largely dependent on the skills and knowledge that the workers possess. These inputs would enable the worker perform his work with finesse and confidence.

Therefore, training is an important input for any professional. Given the importance laid on the vocational subjects by the Kenya Government and given these subjects' envisaged role in reducing the unemployment problem in the country, it is important that they are handled by competent teachers at all levels of the educational ladder. As such:

(i) the government should step up the training of teachers and tutors in these areas so that the teaching and training in the educational institutions are manned by competent people.

(ii) Given the importance of these subjects, it is necessary to boost the facilities and human resources necessary for the effective training of the trainees so as to get a better trained teacher.

(iii) If it is not possible to equip all the teacher training institutions with the required facilities and materials for the teaching of these subjects, it would be better to set up two or three teachers colleges in the country with the express mandate of training teachers and tutors for these subjects. These

specialised institutions would give the trainees the necessary concentrated training for the handling of these subjects. This is happening in other countries such as Israel, Nigeria and France (Chapter I). Technical teachers' colleges should be established or alternatively expand the existing ones so that more teachers and tutors in these subjects are trained.

(iv) The present state of allowing tutors who did not train in the art of teaching a particular subject to train teachers in that particular subject should be stopped. It is obvious that such a tutor does not possess the professional input necessary for the training of teachers in the subject.

(v) Postgraduate courses in teacher education should be introduced and/or strengthened so that the tutors can perfect their skills in this area.

(vi) Inservice courses and workshops should be organised at regular intervals to train the teachers and tutors as well as education

officers in the art of teaching and learning as well as equipping them with the latest developments in the area of education.

(vii) The primary education teacher syllabus is too much congested. There is need to re-examine this aspect with a view to reducing the workload for the student. There is need to introduce electives in the primary teacher education program so that the trainees can take a manageable number of subjects.

(viii) From the findings of this study it is evident that most of the tutors do not themselves have any experience with the goings - on at the primary schools. This is because most of them, who are university graduates, have never been equipped with the necessary knowledge and skills in primary school teaching as the university teacher education syllabi (specially at undergraduate level) do not have a provision for primary methods. As such, we have a case where the teachers who have been trained to handle secondary school material are posted to primary teachers' colleges and are expected to train primary teachers in how

to teach a primary school child. Needless to say that this is an assignment for which such tutors are themselves unprepared. As such:

(a) teacher education courses at University and diploma colleges should have a primary school teaching component. In this sense the teacher trainees will have a college exposure to the syllabi and methods of teaching at the primary schools.

(b) during the practical teaching session for the University and diploma college education students, provision should be made whereby the trainees make a choice as to where they would like to be posted to carry out their teaching practice - either secondary schools, primary schools, primary teachers' colleges or secondary teachers' colleges.

(c) On completion of their courses the Universities and colleges should furnish the Teachers' Service Commission with a list of those who carried out their

practical teaching assignment in the area of primary education so that only these may be posted to primary teachers colleges since they would have had the necessary exposure to what goes on in a primary school. Those who carried out their teaching practice in the area of secondary education may be posted to secondary schools and diploma colleges.

(ix) The students observed during their teaching practice displayed various weaknesses. These weaknesses were such as, difficulties to translate theory into practice, inability to make and use various items such as musical instruments and teaching aids, inadequate content in various topics such as in accounts, food and nutrition, clothing and textiles. They were also too theoretical in approach and rarely demonstrated to the pupils what was expected of them. Most of them adopted the lecture method in teaching with little attempt to meaningfully involve the pupils in the lesson. This could be attributed to various factors among which is the fact that the student teachers lack adequate acknowledge and

skills in the subjects - i.e. they have tenuous knowledge and skill base in the subjects. In addition there are inadequate teaching and learning materials as well as facilities in the primary schools where they were carrying out their teaching practice. Given the fact that all the subjects in the primary teacher education Curriculum are compulsory some of the students teach subjects that they are not interested in. It is in view of this that the following recommendations are made:

(a) Given the importance that the vocational subjects have in the 8-4-4 educational system it will be necessary to require all those seeking admission to the teachers colleges to have attempted and passed in at least three of the practical/vocational subjects at the K.C.S.E. level.

(b) The tutors teaching these subjects must have not only adequate content in the subjects but also be professionally trained in the subjects so that they may

impart the knowledge and skills required for a teacher trainee.

(c) There is need to boost the facilities and materials necessary for the teaching of these subjects not only at the teachers colleges but also at the primary schools so that the trainees have a better practising atmosphere during their practical teaching attachment. Some of the useful items made at the primary teachers colleges in these subject areas could be donated to the primary schools in the colleges' catchment area to be used for the teaching and learning purposes in the primary schools.

(d) There is need to raise the level of teaching of Mathematics and other science subjects such as Chemistry and Biology at Secondary Schools so as to equip the learners with the necessary background knowledge that will help them in learning such topics as accounts in Business Education and Soil Ph in Agriculture.

(e) As stated elsewhere, there is need to introduce electives in the primary teachers' colleges so that the trainees may take subjects which they are not only interested in but also which are manageable as per the time available for the study of the subjects. This will enable them concentrate more in a few subjects and therefore acquire more skills in the subjects than is the case at the moment whereby students are required to take as many as thirteen subjects and they are, therefore, forced to thinly spread their time in the study of these subjects. This arrangement will enable trainees to get a much firmer knowledge base in the subjects and therefore put them in a better position for their teaching assignments.

Attitudes

As stated earlier, the issue of attitudes to the vocational subjects in Kenya has a historical tag. These subjects were presented to Kenyan Africans by the colonial masters in a way that made the Africans perceive

them as inferior to the academic subjects. This negative projections were also underlined in the salary and wage differentials between the so called white-collar jobs and blue-collar jobs which were performed by mainly the graduates of academic and vocational subjects respectively. The white-collar worker, apart from working in generally healthier and neater surroundings also earned more money and respect from the employer and society respectively while the blue-collar job worker earned significantly less, worked in a hazardous atmosphere and was, comparatively, less respected in the society. As such, the Africans came to perceive the academic curriculum as the key to success and recognition while they looked down upon the vocational subjects.

This was the trend until the mid - 1970's and later when the unemployment problem in the country forced the government and individuals to reconsider their view of the vocational subjects and examine their potential in stemming the unemployment problem. As stated earlier, the heavy dose of the vocational subjects in the 8-4-4 system of education was partly a recognition of this fact and an attempt by the educational planners and managers in this country to positively realign the attitudes of Kenyans towards these subjects.

This study has revealed several aspects as earlier discussed in the light of which the following recommendations are made:

(i) Most tutors view the teaching of Art/Craft as the most difficult. This is mainly due to the fact that this subject consists of many areas in which the tutors themselves are ill-equipped to teach. These are such areas as leatherwork, metalwork, woodwork, and brick laying. Coupled with the fact that there are inadequate facilities and materials in these subjects, this makes the teaching of the subjects relatively more demanding and therefore, the tutors' tendency to loathe the subjects.

It is therefore, necessary to equip the tutors with the requisite training in these apparently difficult areas as well as supply adequate facilities and materials to enable the tutors enjoy teaching the subjects.

(ii) While most tutors were happy with the training they had at the teacher training colleges in teaching the subjects, less than 50% of the

Art/Craft tutors were of the same opinion. This implies that the teacher training institutions should try and raise their training levels in this subject.

(iii) for the attitudes of both the students and tutors to be significantly positively changed and sustained, the teaching of these subjects at the lower levels - i.e. primary and secondary schools should be re-examined with a view to improving on them. This is borne out by the fact that a majority of tutors in these subjects indicated they did not enjoy their secondary school lessons in these subjects. There is, therefore, need to staff the primary and secondary schools with qualified personnel in these subjects, supply the required teaching and learning materials, provide the necessary facilities, and require the teachers to adopt motivating methods in teaching the subjects in order to arouse the students' interest in the subjects.

(iv) There is need to carry out intensive inservicing of tutors in all these subjects with a view to equipping them with the

required inputs such as methods and confidence for the teaching of these subjects. This is because most of the tutors have outrightly indicated that they were not trained in teaching certain topics in these subjects (Chapter IV and Chapter V "Findings"). This makes them ill-equipped and therefore, not confident in the teaching of these aspects hence the need for the inservice and refresher courses.

(v) Generally, the students attitudes to these subjects are positive. However, there is need to continuously and deliberately take steps that will boost this state even more. This is by way of supplying the necessary teaching and learning materials, adoption of interesting teaching methods and provision of the facilities necessary for the teaching and learning of these subjects.

(vi) There is need for the teachers' training colleges to deliberately show the commercial dimension of these subjects by:-

(a) putting such facilities as canteens and shops not only to commercial use but also integrate them in the educational life of the college by way of the students practically studying such aspects as bookkeeping, records, labelling, display and advertising in Business Education.

(b) the items produced in such subjects as Arts/Craft and music be not only stored or displayed but also could be sold to staff and members of the public. This will cater not only for the educational aspect of the subjects but also the commercial dimension. The workshops could also be open to the public to bring in their items for repair or even fitting whatever furniture they required. This will help the colleges earn some income and the students will learn the economic values of the subjects practically. This also applies to Homescience whereby the items made could be put to sale and the facilities could also be used by the staff and the public for example, birthday and wedding cakes etc. could be

made for whoever required them at some cost. Tailoring facilities could also be extended in the same way.

(vii) While most male students showed a big dislike for Homescience, an almost equally large number of female students showed a dislike for Agriculture (Chapter IV). This could be due to the past educational practices whereby boys' secondary schools never taught Homescience and most of the girls' secondary schools did not teach agriculture. This gave rise to the view that Homescience was for girls and Agriculture was for boys. This trend has changed, thanks to the 8-4-4 system of education. There is need to recognize this fact and impress on the teachers to deliberately court either group to study these subjects as much as possible. The teachers' recognition of these variations in the view of the subjects by the boys and girls would help them approach each party with understanding and try to

positively influence them to like the subjects.

(viii) There is need for the tutors to adopt interesting and captivating methods such as projects, discussions in teaching these subjects. This will help them attract the students to the subjects. The current overemphasis on the lecture methods as earlier pointed out makes the learning of the subjects dreary and boring hence putting off most of the students.

GENERAL RECOMMENDATIONS

From a survey of the colleges, several aspects which the researcher feels constrained to commend on came up.

In the first place, the current policy of admitting students from all over the country to the colleges should continue. This is in tune with the idea of fostering natural unity.

Secondly, there is need for the managers of these institutions - especially the members of the Board of Governors and the Principals to be given courses in how to manage the college facilities better. In addition,

they should be thoroughly versed in matters of education especially the aims and objectives of the 8-4-4 system of education. This will enable them to manage the implementation process better. As it stands, some of these managers appear ignorant as to what to do in order to effectively implement the 8-4-4 curriculum. They lack creativity especially as far as the idea of self-reliance is concerned hence their apparent lucklustre performance in the implementation of this educational innovation.

There is need to revise the whole approach to primary teacher training. There is need to introduce some elements of specialisation in the colleges so that the students could take a manageable number of subjects instead of the current idea of all the subjects being compulsory. This makes the workload too heavy to the students hence the lack of depth in their studies.

There is need to re-examine the secondary teacher education programmes in Kenya with a view to strengthening the primary education element in these programmes. This is because the graduates of these colleges are also posted to primary teachers' colleges where they are expected to train primary school teachers

and yet they themselves do not have any knowledge in primary education!

SUGGESTIONS FOR FURTHER RESEARCH

This has been an attempt at evaluating at a general level, the training of primary teachers in Kenya. The training so studied has been specifically in the area of the vocational subjects i.e Music, Art/Craft, Homescience, Business Education and Agriculture. The researcher acknowledges the fact that the area covered is a wide one and as such, he does not claim to have exhaustively examined each of the subjects. This has been a general survey which was designed to study these subjects, from a general curriculum point of view. The proper treatment of each of the subjects is better dealt with by the specific subject specialists. As such, there is need to:

(a) Critically examine the teaching and training in each of the subjects to see how they are designed to produce a well trained teacher in the subject(s).

(b) assess the principals and board members' conception of the vocational subjects and how

they go about implementing them in the colleges.

(c) study the role played by the field education staff in the implementation of each of these subjects.

SUMMARY

This chapter has outlined the stydy findings and recommendations made in line with the findings. The findings indicate that there are major areas in these subjects that cause concern. Some of these areas need the attention of individual college administrations while others need government policy changes in order to effect any meaningful changes.

This therefore, calls for a new realization to addressing the awareness in teacher education both from the government, teachers colleges and universities' faculties of education. Without this re-awakening, the primary teacher education programs in the area of vocational education will remain weak and will make the attainment of the objectives of the 8-4-4 system of education a bit more difficult.

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A P P E N D I C E S

APPENDIX A

PRINCIPALS' DEMOGRAPHIC DATA SHEET

Kindly respond to all the items in this questionnaire. Do nc write your name nor that of the college on this questionnaire. Th information is confidential and will not be used in any way against yc or the college.

Your co-operation is appreciated.

1. How many tutors of these grades do you have in your college.

APPROVED	B.ED	B.ED (PRI)	B.A.	B.SC	M.ED	M.ED	M.SC	PH.D	OTHERS

(i) Graduates .....

(ii) Diploma .....

(iii) Technical Certificate .....

(iv) SI .....

(v) PI .....

(vi) Others (specify) .....

2. How often are tutors transferred from your colleges?

   (i) after less than a year .....

   (ii) after 1-2 years .....

   (iii) after 2-3 years .....

   (iv) after 3-4 years .....

   (v) after 4-5 years .....

   (vi) after 5 (and above years) .....

3. What is your total student enrolment in

   (i) First year .....

   (ii) Second year .....

4. What is the average size of each

   (i) First year class .....

   (ii) Second year class .....

5. How many classes do you have in

   (i) First Yea .....

   (ii) Second year .....

6. Indicate the number of classrooms available in your college at present. .....

7. How many workshops does the college have?

   .....

8. The workshop(s) are used by

(i) College maintainance staff .....

(ii) Students .....

(iii) Both students and maintainance staff .....

9. How many specialised rooms have been set aside by your college for the teaching/learning of the following subjects:

	0	1	2	3	4	5	6	7
(i) Art/Crafts								
(ii) Music								
(iii) Agriculture								
(iv) Business Education								
(v) Homescience.								

10. Indicate against each subject whether or not the subject has adequate facilities/equipment facilities for it to be taught well.

	Adequate	Inadequate
(i) Music	.....	.....
(ii) Business Education	.....	.....
(iii) Homescience	.....	.....
(iv) Agriculture	.....	.....
(v) Art/Crafts	.....	.....

11. (a) How much land, in acres, does the college have? .....

(b) Briefly below, categorise in approximate proportions how the land is being utilized.

Use			%
Growing of:	1.	Maize	
	2.	Beans	
	3.	Vegetables	
	4.	Potatoes	
	5.		
	6.		
			%
Keeping of:	7.	Cows	
	8.	Pigs	
	9.	Poultry	
	10.		

12.(a) Is the college self-reliant in the following food items for students and/or staff

	Yes	No
(i) Maize	.....	.....
(ii) Beans	.....	.....
(iii) Vegetables	.....	.....
(iv) Milk	.....	.....
(v) Eggs	.....	.....
Any other:-		
(vi)	.....	.....
(vii)	.....	.....
(viii)	.....	.....
(ix)	.....	.....
(x)	.....	.....

(b) If it is not self-reliant, approximately how much of the above is produced locally and how much is bought from external sources?

	% produced/acquired Locally	Externally
(i) Maize	.....	.....
(ii) Beans	.....	.....
(iii) Vegetables	.....	.....
(iv) Milk	.....	.....
(v) Eggs	.....	.....
(vi)	.....	.....
(vii)	.....	.....
(viii)	.....	.....
(ix)	.....	.....
(x)	.....	.....

13. How does the college utilize the items made by students in Art/Craft, Homescience and Music?

Subject	Items	Use
(i) Art/Craft		
(ii) Homescience		
(iii) Music		

14. In your own evaluation, how do the students benefit from the production and use of these items (in 13 above)?

.....

.....

15(a) Has the college got a college shop/canteen/ cafeteria? Yes .....

No. .....

(b) If Yes, who runs this canteen/shop/cafeteria?

Rented to Outsiders	Staff	Students	College	Closed
.....	.....	.....	.....	.....

(c) How do the students benefit from this canteen/ shop/cafeteria?

.....

.....

.....

16(a) If your college was to hold a harambee, what contributions would you expect the following subjects/departments to make?

	Subject/Department	Contribution
(i)	Business Education	
(ii)	Art/Craft	
(iii)	Music	
(iv)	Agriculture	
(v)	Homescience	

(b) In what form would you expect the students to make their contributions?

17. In the space provided against each subject, cite any other problem(s) hitherto not mentioned that impair the teaching/learning of the following subjects in your college.

	Subjects	Problems
(i)	Business Education	
(ii)	Music	
(iii)	Homescience	
(iv)	Agriculture	
(v)	Art/craft	

APPENDIX B

PRINCIPAL'S INTERVIEW SCHEDULE

1. Does the college have enough of the following:

		Yes	No.
(i)	Farm implements	.....	.....
(ii)	Homescience tools	.....	.....
(iii)	Art/Craft materials	.....	.....
(iv)	Land for farming	.....	.....
	Others		
(v)		.....	.....
(vi)		.....	.....

2. Are the college canteen, workshop, Agriculture, Homescience and Music departments adequately equipped?

	Canteen	Workshop	Homescience	Agriculture	Music
Yes					
No					

3.(i) Are any records kept in this canteen; workshop; Agriculture, Homescience and Music departments?

	Canteen	Workshop	Homescience	Agriculture	Music
Yes					
No					

(ii) What records are kept in the Canteen, Workshop, Agriculture, Homescience and Music?

	Canteen	Workshop	Homescience	Agriculture	Music
1.					
2.					
3.					
4.					
5.					
6.					

(iii) Are you satisfied with these records?

	Canteen	Workshop	Homescience	Agriculture	Music
Yes					
No					

4. What items have been made by students in these subjects?

Business Education
Music
Art/Craft
Home Science
Agriculture

5.(a) How many tutors do you have in each of the following subjects?

Music	Art/Craft	Homescience	Agriculture	Business Education

6. Has any school inspector ever supervised your tutors as they taught the following subjects?

	Music	Art/Craft	Homescience	Agriculture	Business Education
Yes					
No					

(b) If so, what is the average frequency annually of such inspections.

	0	1	2	3	4	5	6	and above
Agriculture								
Music								
Art/Craft								
Homescience								
B/Education								

7.(a) Has the college ever participated in shows/ exhibitions/competitions in the following subjects?

	Music	Art/Craft	Homescience	Agriculture	Business Education
Yes					
No					

8. How does the college utilize whatever is produced in these subjects?

	Sold	Stored	Dis-arded	Displayed in grad. Ceremonies	Teaching aids	Given As Presents
Music						
Art/Craft						
Business Ed.						
Home-science						
Agricul-ture						

9. What are the main problems experienced by the college in implementing the prevocational curriculum?

   (i) Music

   (ii) Art/Craft

   (iii) Business Education

   (iv) Agriculture

   (v) Homescience

10. General Remarks:

APPENDIX C

TUTORS' DEMOGRAPHIC DATA SHEET

SUBJECT: _____

Dear Tutor,

You are kindly request to answer all the questions that appear in this questionnaire.

Several alternative answers have been suggested. Put a tick against any alternative you feel best answers the questions asked.

Your identity is not required and, therefore, do not write your name anywhere on this questionnaire.

Your cooperation is very much appreciated.

1. Your age is

   (a) below 20 years .....

   (b) 20-30 years .....

   (c) 31-40 years .....

   (d) 41-50 years .....

   (e) above 50 years .....

2. Your sex is

(a) Male .....

(b) Female .....

3. Your professional qualification is

(a) Graduate .....

(b) Diploma .....

(c) SI .....

(d) Any other grade (specify) .....

4. Which of the following subjects did you attempt at CSC/E.A.C.E./K.C.E./K.C.S.E. levels?

		Yes	No
(a)	Art	....	....
(b)	Music	....	....
(c)	Agriculture	....	....
(d)	Economics/Commerce/Business Education	....	....
(e)	Homescience/Home Economics	....	....
(f)	Industrial Education	....	....

4(b) If Yes, what was your C.S.C./E.A.C.E./K.C.E./ K.C.S.E. grade in the attempted subject(s). (Tick appropriate grade).

CSC/EACE/KCE K.C.S.E

	1	2	3	4	5	6	7	8	9	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
(a) Art																					
(b) Music																					
(c) Agriculture																					
(d) Economics/Commerce/BusinessEducation																					
(e) Home-Science/Home-Economics																					
(f) Industrial Education																					

Key:

GSC: Cambridge School Certificate
EACE East African Certificate of Education
K.C.S.E. Kenya Certificate of Secondary Education

5.(a) Did you attempt these subjects at H.S.C./E.A.C.E/ K.A.C.E level?

		Yes	No
(a)	Art	.....	.....
(b)	Music	.....	.....
(c)	Agriculture	.....	.....
(d)	Economics/Commerce/ Business Education	.....	.....
(e)	Homescience/Home Economics	.....	.....
(f)	Industrial Education	.....	.....

(b) If Yes, what was your H.S.C./E.A.A.C.E/K.A.C.E. grade in the following subjects/ (Tick appropriate grade)

		A	B	C	D	E	O	F
(a)	Art							
(b)	Music							
(c)	Agriculture							
(d)	Economics/Commerce/ Business Education							
(e)	Industrial Education							
(f)	Home Economics							

6(a) Did you attempt any of these subjects at your teacher training college?

		Yes	No
(a)	Art	.....	.....
(b)	Music	.....	.....
(c)	Agriculture	.....	.....
(d)	Economics/Commerce/ Business Education	.....	.....
(e)	Homescience/Home Economics	.....	.....
(f)	Industrial Education	.....	.....

(b) What grade did you obtain at college in the following subjects(s)?

		Grade
(a)	Art/Craft	.....
(b)	Music	.....
(c)	Agriculture	.....
(d)	Economics/Commerce/ Business Education	.....
(e)	Homescience/Home Economics	.....
(f)	Industrial Education	.....

7. For how long have you taught in this college? (Tick appropriate answer).

1-11 MONTHS	1YR	2YRS	3 YRS	4 YRS	5YRS	6 YRS	7 YRS ABOVE

8. Which of these subjects do you teach?

(a) Art/Craft _____

(b) Agriculture _____

(c) Business Education _____

(d) Homescience _____

(e) Music _____

9. For how long have you been teaching the subject(s)?

(a) less than 1 year .....

(b) 1-3 years .....

(c) 4-6 years .....

(d) 7-9 years .....

(e) 10 years and above .....

10(a) Have you ever taught in a primary school?

Yes .....

No .....

(b) If Yes, for how long? ..... Years/Months

(delete whichever is not applicable).

11. Does your college have enough materials to enable you teach?

	Yes	No
(a) Art/Craft effectively?	....	....
(b) Agriculture effectively?	....	....
(c) Music effectively?	....	....
(d) Business Education effectively	....	....
(e) Homescience effectively?	....	....

12. Does the college have adequate relevant textbooks in the following subjects?

		Yes	No
(a)	Agriculture	.....	.....
(b)	Music	.....	.....
(c)	Business Education	.....	.....
(d)	Homescience	.....	.....
(e)	Art/Craft	.....	.....

13. Indicate the adequacy or inadequacy of the rooms/ space made available for the teaching of:-

		Adequate	Inadequate
(a)	Agriculture	.....	.....
(b)	Music	.....	.....
(c)	Business Education	.....	.....
(d)	Homescience	.....	.....
(e)	Art/Craft	.....	.....

14. Do you feel the numbers of the students in your classes are too big to enable you teach well?

Yes .....

No. .....

15. List any areas of difficult in teaching your subject(s) and state any reasons for the difficulty.

etc. Subject: Art/Craft

Difficult Area: Leather work

Reason: I was not trained in this area or lack of relevant textbooks in the area etc.

	Subject	Area of Difficulty	Reasons for Difficulty
(i)	Art/Craft		
(ii)	Music		
(iii)	Homescience		
(iv)	Business Education		
(v)	Agriculture		

16(a)(i) Do you think the performance of students in your subjects during teaching practice has been adequate?

Yes .....

No. .....

(ii) If 'No', what have been their major weaknesses and what are the reason(s) for the weaknesses?

e.g.

Subject: Music

Weakness: Do not know how to make/ use traditional instruments.

Reason: Did not have adequate practice in the area.

	Subject	Area(s) of Weakness	Reasons for Weakness
(i)	Music		
(ii)	Art/Craft		
(iii)	Business Education		
(iv)	Homescience		
(v)	Agriculture		

17(a)(i) Do you think the students performance in their class work in your subject has been satisfactory?

Yes .....

No. .....

(b) If Yes, with regard to the courses attended please

(i) Fill in the time (year) and place/Institution where the courses which you attended were conducted.

(ii) Indicate by tick ( ) the level of the course i.e. whether it was done locally in Kenya at Divisional, District, Provincial, National or Overseas levels.

Discipline	Time	Place/ Institution hosting course	Level of course (Tick)				
			Divi- sional	Dist- rict	Prov- incial	Nat- ional	Over seas
(a) Art/Craft							
(b) Music							
(c) Business Education							
(d) Home science							
(e) Agriculture							

(ii) If 'No' what have been their major weaknesses and what are the reason(s) for the weaknesses?

e.g. Subject: Business Education

Reason(s): Lack of adequate Mathematical knowledge.

	Subject	Area(s) of Weakness	Reason for Weakness
(i)	Music		
(ii)	Art/Craft		
(iii)	Agriculture		
(iv)	Homescience		
(v)	Business Education		

18(a) Have you attended Inservice/Refresher/ Updating courses in any of the disciplines listed below.

	Yes	No
Music	....	....
Homescience	....	....
Art/Crafts	....	....
Agriculture	....	....
Business Education	....	....

APPENDIX D

TUTORS' ATTITUDINAL SCALE

Dear Sir/Madam,

You are kindly requested to respond to the following questions as they relate to the subject(s) you teach. Please encircle the response you feel best answers the question. The following key explains the responses:-

SA - Strongly agree

A - Agree

U - Undecided

D - Disagree

SD - Strongly disagree

Do not write your name anywhere on this questionnaire.

Your sex is .....

NB: PLEASE RESPOND TO QUESTIONS CONCERNING ONLY THE SUBJECTS YOU TEACH

Your cooperation is appreciated.

1. Teaching

   (a) Business education is not as easy as other subjects.

   SA A U D SD

   (b) Art/Craft is not as easy as other subjects.

   SA A U D SD

   (c) Homescience is not as easy as other subjects

   SA A U D SD

   (d) Music is not as easy as other subjects.

   SA A U D SD

   (e) Agriculture is not as easy as other subjects.

   SA A U D SD.

2. I enjoy teaching.

   (a) Business Education more than other subjects.

   SA A U D SD

   (b) Art/Craft more than other subjects.

   SA A U D SD

   (c) Homescience more than other subjects.

   SA A U D SD

   (d) Music more than other subjects.

   SA A U D SD.

3. My teacher training completely prepared me to teach:

   (a) Business Education.

   SA A U D SD

(b) Art/Craft

SA A U D SD

(c) Homescience

SA A U D SD

(d) Music

SA A U D SD

(e) Agriculture

SA A U D SD.

4. I enjoyed my secondary school lessons in

(a) Art

SA A U D SD

(b) Music

SA A U D SD

(c) Agriculture

SA A U D SD

(d) Homescience

SA A U D SD

(e) Business Education

SA A U D SD.

5. Other tutors have shown keen interest in

(a) Art/Craft

SA A U D SD

(b) Music

SA A U D SD

(c) Agriculture

SA A U D SD

(d) Homescience

SA A U D SD

(e) Business Education

SA A U D SD.

6. My field experience as a tutor rather than my teacher training has been more helpful in showing me how to teach.

(a) Art/Craft

SA A U D SD

(b) Music

SA A U D SD

(c) Agriculture

SA A U D SD

(d) Homescience

SA A U D SD

(e) Business Education

SA A U D SD.

7. The introduction of

(a) Art/Craft in K.C.P.E. has uplifted it

SA A U D SD

(b) Agriculture in K.C.P.E. has uplifted it

SA A U D SD

(c) Music in K.C.P.E. has uplifted

SA A U D SD

(d) Homescience in K.C.P.E. has uplifted it

SA A U D SD

(e) Business Education in K.C.P.E. has uplifted it

SA A U D SD.

8. In my view, colleges are not adequately equipped to train teachers for

(a) Art/Craft

SA A U D SD

(b) Music

SA A U D SD

(c) Homescience

SA A U D SD

(d) Agriculture

SA A U D SD

(e) Business Education

SA A U D SD.

9. There is need to inservice the tutors teaching

(a) Art/Craft

SA A U D SD

(b) Music

SA A U D SD

(c) Homescience

SA A U D SD

(d) Agriculture

SA A U D SD

(e) Business Education

SA A U D SD.

10. The students response to

(a) Art/craft is mostly negative

SA A U D SD

(b) Music is mostly negative

SA A U D SD

(c) Agriculture is mostly negative

SA A U D SD

(d) Homescience is mostly negative

SA A U D SD

(e) Business Education is mostly negative

SA A U D SD.

APPENDIX E

TUTORS' INTERVIEW SCHEDULE

SUBJECT: _____

1. How many periods per week do you have? .....
2. How many students per class do you have? .....
3. What textbooks do you use in your teaching?
   1.
   2.
   3.
4. (a) Do you like the book(s) content?
   Yes .....
   No. .....
   (b) If not, why?
5. (a) Do you like teaching the subject?
   Yes .....
   No. .....
   (b) If Not why?
6. (a) What methods do you employ in teaching the subject?

   (b) Why do you employ this method(s)?
7. How do you organise continuous assessment in your subject?
8. General Remarks:

APPENDIX F

STUDENTS' DEMOGRAPHIC DATA SHEET

Dear Student,

The following are some questions in relation to the teaching/learning of Music, Agriculture, Business Education, Art/Craft and Homescience.

It is not a test so every answer you give is correct.

Please answer all the questions. Do not write your name anywhere on this sheet. Tick the answer you feel best answers the question.

1. My sex is:
   (a) Male .....
   (b) Female .....
2. In the box, indicate your place of origin:

Province	District	Division

3. Indicate the occupations of your parents:

Father	Mother

4. What is the average annual income of your parents?

0-1000/=	1000/= 3000/=	3000/= 5000/=	5000/= 7000/=	7000/= 9000/=	9000/= 11000/=	Over 11000/=

5. Indicate the number of brothers and sisters that you have.

Sisters	Brothers

6. Do you have a text book in

		Yes	No
(a)	Art/Craft	....	....
(b)	Music	....	....
(c)	Homescience	....	....
(d)	Business Education	....	....
(e)	Agriculture	....	....

7. Are enough materials supplied during the following lessons?

		Yes	No
(a)	Art/Craft	....	....
(b)	Music	....	....
(c)	Homescience	....	....
(d)	Business Education	....	....
(e)	Agriculture	....	....

8. During your studies, which subject do you read most?

		Yes	No
(a)	Art/Craft	....	....
(b)	Music	....	....
(c)	Agriculture	....	....
(d)	Homescience	....	....
(e)	Business Education	....	....

9. What is the size of your class?

(a) Below 40 students .....

(b) 40 students .....

(c) Over 40 students .....

10. Approximately how many hours per day do you devote to your private study in:

	Art/Craft Music	Agriculture	Business Education	Home Science
Less than 1/2 hr.				
1/2 - 2 hrs				
2 hrs - 4 hrs				
More than 4 hrs				

11. In your view, do you think that the content and instructional training you are getting in the following subjects is preparing you adequately for your teaching career?

		Yes	No
(a)	Art/Craft	....	....
(b)	Music	....	....
(c)	Homescience	....	....
(d)	Business Education	....	....
(e)	Agriculture	....	....

12. Since you started your teacher training, how many projects have you had in the following subjects? (Please tick the number of projects in the box indicated against the subject).

		0	1	2	3	4	5	6	7 and above
(a)	Art/Craft								
(b)	Music								
(c)	Homescience								
(d)	Business Education								
(e)	Agriculture								

13(a) Did you attempt any of the following subjects in your C.S.C./E.A.C.E./K.C.E./K.C.S.E. Examination?

		Yes	No
(a)	Art/Craft	....	....
(b)	Music	....	....
(c)	Home Economics	....	....
(d)	Agriculture	....	....
(e)	Commerce/Economics	....	....

(b) If you attempted any, what grade did you attain in it? (Please tick the grade in the box against the subject).

	1	2	3	4	5	6	7	8	9	A	A-	B-	C+	C	C-	D+	D	D-	E
(a) Art																			
(b) Music																			
(c) Home Economics																			
(d) Agriculture																			
(e) Commerce Economics																			

14. Indicate your liking for the following subjects in the space provided. (Tick appropriate response).

	Most Liked	Liked	Least Liked
(a) Art/Craft			
(b) Music			
(c) Homescience			
(d) Business Education			
(e) Agriculture			

15. Given a choice, which of the following subjects would you opt NOT to teach after your teacher training. (Tick appropriate answer(s)

(a) Music ....

(b) Art/Craft ....

(c) Homescience ....

(d) Business Education ....

(e) Agriculture ....

(f) All of them ....

16. In the space provided, write major areas of difficulty and state reasons for the difficulty.

	Areas of Difficulty	Reason(s) for Difficulty
(a)	Art/Craft	
(b)	Music	
(c)	Homescience	
(d)	Business Education	
(e)	Agriculture	

APPENDIX G

STUDENTS' ATTITUDINAL SCALE

Dear Student,

The following are simple questions about how you feel and know about Art/Craft, Music, Agriculture, Business Education and Home Science.

The following key explains the responses:-

A - Agree

D - Disagree

Tick against any of the two responses given which you think is the best response to the question asked.

This is not an examination. Therefore, every answer you give is correct.

Please answer all questions.

Your cooperation is appreciated.

Your sex is (a) Male .....

(b) Female .....

		A	D
1.	I like		
	Art/Craft	....	....
	Agriculture	....	....
	Business Education	....	....
	Homescience	....	....
	Music	....	....

		A	D
2.	(a) Art/Craft is harder than other subjects	....	....
	(b) Music is harder than other subjects	....	.....
	(c) Homescience is harder than than other subjects	....	....
	(d) Agriculture is harder than other subjects	....	....
	(e) Business Education is harder than other subjects	....	....

3. I am not sure how I will perform in my Primary Teachers' Examination in

		A	D
	(a) Art/Craft	....	....
	(b) Music	....	....
	(c) Homescience	....	....
	(d) Agriculture	....	....

(e) Business Education ....

Homescience ....

Music ....

4. Learning A D

(a) Art/Craft is interesting ....

(b) Music is interesting ....

(c) Homescience is interesting ....

(d) Business Education is interesting ....

(e) Agriculture is interesting ....

5. When there is no tutor in class, I spend most of my time doing exercise in

A D

(a) Art/Craft ....

(b) Music ....

(c) Agriculture ....

(d) Business Education ....

(e) Homescience ....

6. There is too much work in

A D

(a) Music ....

(b) Art/Craft ....

(c) Homescience ....

(d) Agriculture ....

(e) Business Education ....

7. My friends encourage me to study

	A	D
(a) Music	....	....
(b) Art/Craft	....	....
(c) Homescience	....	....
(d) Business Education	....	....
(e) Agriculture	....	....

8. My tutors encourage me to study

	A	D
(a) Music	....	....
(b) Art/Craft	....	....
(c) Homescience	....	....
(d) Business Education	....	....
(e) Agriculture	....	....

9. If subjects were optional, I would drop

	A	D
(a) Music	....	....
(b) Art/Craft	....	....
(c) Homescience	....	....
(d) Business Education	....	....
(e) Agriculture	....	....

Appendix H

Teaching (Practice) Observation Schedule

Tutor/Student_____College/School_____Class _____ Subject_____

	1	2	3	4	5	6	7	8	9	10	Total
1. Accepts feeling: accepts and clarifies feeling of students	1										
2.Ppraises or encourages student action or behaviour,jokes	2										
3.Accepts/uses/clarifies/builds/develops ideas by student	3										
4. Asks questions about content/procedure for students	4										
5. Lectures/gives factors/or opinions about content/procedure	5										
6. Gives directions/commands/orders with which students comply	6										
7. Criticizes/justifies authority: statements intend to change behaviour	7										
8. Student talk-response: talk in response to teacher	8										
9. Studen talk-initiation: talk by students which they initiatet	9										
10. Silence/confusion: pauses/silence during which conversation not understod	10										
	Total										

Appendix I

Problem Areas

	ART/CRAFT N = 12		MUSIC N = 17		HOMESCIEN. N = 19		AGRICUL. N = 17		B.EDUC. N = 15	
	No.	%	No.	%	No.	%	No.	%	No.	%
Leatherwork	10	83.33								
Woodwork	8	66.67								
Puppetry	8	66.67								
Fabric Design	9	75.00								
Lithography	4	33.33								
Loom weaving	6	50.00								
Building Construction	10	83.33								
Metal work	11	91.67								
Playing of Instruments			10	58.82						
Practicals			7	41.18						

Appendix I: Cont.

	ART/CRAFT N = 12		MUSIC N = 17		HOMESCI. N = 19		BUS. EDUC. N = 15		AGRICUL. N = 17	
	No.	%	No.	%	No.	%	No.	%	No.	%
Playing Western Music			12	70.59						
Methodology			7	41.18						
Theory of Music			7	41.18						
Clothing & Textiles					9	52.94				
Practicals					8	42.11				
Food and Nutrition					7	36.84				
Laundry					10	52.63				
Needle work					7	36.84				
Accounts							9	60.00		
Office Practice							7	46.67		
Business Records							11	73.33		

Appendix I: Cont.

	ART/CRAFT N = 12		MUSIC N = 17		HOMESCIEN. N = 19		BUS.EDUC. N = 15		AGRICULTURE N = 17	
	No.	%	No.	%	No.	%	No.	%	No.	%
Farm Structure									4	23.53
Crop Diseases									9	52.94
Fertilizer Calculations									13	76.47
Farm tools and Equipments									8	47.06
Fish Farming									12	70.59
Soil Ph									10	58.82
Crop Production/Practicals									9	52.94
Livestock Management									11	64.71
Agricultural Economics									11	64.71

APPENDIX J

Students Performance in Teaching Practice

		Art/Craft N=12		Music N=17		H.Science N=19		B.Education N=15		Agriculture N=17		Total N=80	
		N0	%	No	%	No	%	No	%	N	%	N	%
Adequacy of student	Yes	3	25.00	4	23.53	4	21.05	11	73.33	8	47.56	30	37.50
Performance in T.P.	No	9	75.00	13	76.47	15	78.95	4	26.67	9	52.94	50	62.50
Relating theory to practice				8	47.06								
Interpretation of rhythm and pitch				11	64.71								
Making and performing music				9	52.94								
Use of traditional instruments				7	41.18								
Teaching harmonic minor scales				9	52.94								
Western music				9	52.94								
Playing musical instruments				10	58.82								
Breaking topics to sub-topics	6	50.00											
Inability to demonstrate	9	75.00											
Too theoretical approach	8	66.67											
Inability to improvise	8	66.67											
Accounting								3	20.00				
Poor in research								4	26.67				
Lack of teaching aids								4	26.67	7	41.18		
Lesson planning	5	41.67	7	41.18	9	47.37							
Practical					9	47.37							
Food an nutrition					8	42.11							
Clothing and textiles					11	57.89							
Inadequate content					9	47.37							
Making and use of teaching aids								6	40.00	7	41.18		
soil profile											52.94		
Vegetative propagation											52.94		
Mineral def: iencies											47.06		

APPENDIX K

Areas of Difficulty

Subject	Areas(s) of difficulty	Females M = 160 No.	%	Males N = 160 No.	%	Total N = 320 No.	%
Subject	Metal work	22	13.75	13	8.13	35	10.94
	Building construction	18	11.25	8	5.00	26	8.13
	Basketry	11	6.88	14	8.75	25	7.81
Ar/Craft	Drawing	4	2.50	6	3.75	10	3.13
	Weaving	2	1.25	3	1.88	5	1.56
	Painting	6	3.75	4	2.50	11	2.44
	Woodwork	25	15.63	21	13.13	46	14.38
	Pattern making	7	4.38	4	2.50	11	2.44
	Leatherwork	21	13.13	12	8.13	34	10.63
	Sculpture	18	11.25	11	6.88	29	9.06
	Tie and Dye	8	5.00	13	8.13	21	6.56
	Modelling	-	-	7	4.38	7	2.19
	Tool names	1	0.63	3	1.88	4	1.25
	Printing	1	0.63	9	5.13	10	3.13
	None	16	10.00	31	19.38	47	14.69
	Musical instruments	8	5.00	6	3.75	14	4.38

APPENDIX K (Contd)

Subject	Areas(s) of difficulty	Females M = 160 No.	%	Males N = 160 No.	%	Total N = 320 No.	%
Music	Music interpretations	8	5.63	13	8.13	22	6.88
	Transposition	11	6.83	10	6.25	21	6.56
	Triads	14	8.75	16	10.00	30	9.35
	Minor scales	9	5.63	6	3.75	15	4.69
	Crotchets and Barlines	21	13.13	24	15.00	45	14.06
	Beat notation	17	10.63	14	8.75	31	9.69
	Sight singing	8	5.00	10	6.25	18	5.63
	Keyboard	20	12.50	19	11.88	39	12.19
	Scales	18	11.25	11	6.88	29	9.06
	None	25	15.63	31	19.38	56	17.50
	Stitches	14	8.75	31	19.38	45	14.06
	Needlework	11	6.88	17	10.63	28	8.75
	Clothing and Textile	15	9.38	14	8.75	29	9.06
Home science	Cookery	7	4.38	10	6.25	17	5.31
	Stain removal	7	4.38	13	8.13	20	6.25
	Laundry work	12	7.50	14	7.75	26	8.13
	Pattern cutting	18	11.75	19	11.88	37	11.56

Appendix L Tutors Attitudes to the Subjects

Art/Craft N=12
Music N=17
Agriculture N= 17
H/Science N=19
Business Education N=15

		SA/A						U						D/SD					
		Females		Males		Total		Females		Males		Total		Females		Males		Total	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1 Teaching these subjects not easy	Art/Craft	2	16.67	7	58.33	9	75.00	-	-	2	16.67	2	16.67	-	-	1	8.33	1	8.33
	Music	3	17.65	7	41.18	10	58.82	-	-	-	-	-	-	7	41.18	-	-	7	41.18
	BusinessEd	-	-	5	33.33	5	33.33	-	-	2	13.33	2	13.33	-	-	8	53.33	8	53.33
	H/Science	6	31.58	-	-	6	31.58	2	-	-	17.65	2	10.53	11	57.89	-	-	11	57.89
	Agriculture	-	-	7	41.18	7	41.18	-	10.53 -	3		3	17.65	-	-	7	41.18	7	41.18
2. I enjoy teaching	Art/Craft	2	16.7	5	41.67	7	58.33	-	-	1	8.33	1	8.33	-	-	4	33.33	4	33.33
	Music	1	5.88	12	70.59	13	76.47	-	-	1	5.88	1	5.88	2	11.76	1	5.88	3	17.65
	Business Ed	-	-	9	60.00	9	60.00	-	-	2	13.33	2	13.33	-	-	4	26.67	4	26.67
	H/Science	12	63.16	-	-	12	63.16	4	21.05	-	-	4	21.05	3	15.79	-	-	3	15.79
	Agriculture	-	-	10	58.82	10	58.82	-	-	3	17.65	3	17.65	-	-	4	23.53	4	23.53
3. My teacher tr..ning prepared me to teach	Art/Craft	1	8.33	4	33.33	1	8.33	-	-	1	8.33	-	-	6	50.00	6	50.00	6	50.00
	Music	-	-	9	52.9 .	-	-	-	-	-	-	3	17.65	5	29.41	5	29.41	8	47.06
	Business Ed	-	-	9	60.00	-	-	1	6.67	1	6.67	-	-	5	33.33	5	33.33	5	33.33
	H/Science	10	52.63	-	-	3	15.79	-	-	3	15.79	6	31.58	-	-	-	-	6	31.58
	Agriculture	-	-	9	52.94	-	-	2	11.76	2	11.76	-	-	6	35.29	6	35.29	6	35.29
4. Enjoyed lessons in secondary school	Art/Craft	1	8.33	6	50.00	1	8.33	-	-	1	8.33	-	-	4	33.33	4	33.33	4	33.33
	Music	1	5.88	7	41.18	2	11.76	3	17.65	5	29.41	-	-	4	23.53	4	23.53	4	23.53
	Business Ed	-	-	5	33.33	-	-	7	46.67	7	46.67	-	-	3	20.00	3	20.00	3	20.00
	H/Science	8	42.11	-	-	4	21.05	-	-	4	21.05	7	36.84	-	-	-	-	7	36.84
	Agriculture	-	-	4	23.53	-	-	9	52.94	9	52.94	-	-	4	23.53	4	23.53	4	23.53

Continued

5. Other tutors	Art/Craft	1	8.33	3	25.00	1	8.33	-	-	1	8.33	-	-	7	58.33	7	58.33	7	58.33
show interests	Music	1	5.88	3	17.65	2	11.76	3	17.65	5	29.41	2	11.76	6	35.29	6	35.29	8	47.06
in	Business Ed	-	-	8	53.33	-	-	2	13.33	2	13.33	-	-	5	33.33	5	33.33	5	33.33
	H/Science	4	21.05	-	-	4	21.05	-	-	4	21.05	11	57.89	-	-	-	-	11	59.89
	Agriculture	-	-	9	52.94	-	-	2	11.76	2	11.76	-	-	6	35.29	6	35.29	6	35.29
6. Field	Art/Craft	2	16.67	6	50.00	8	66.67	-	-	1	8.33	1	8.33	-	-	3	25.00	3	25.00
experience	Music	2	11 76	12	70.59	14	82.35	-	-	1	5.88	1	5.88	1	5.88	1	5.88	2	11.76
other than	Business Ed	-	-	7	46.67	7	46.67	-	-	2	13.33	2	13.33	-	-	6	40.00	6	40.00
training helpful	H/Science	8	42.11	-	-	8	42.11	3	15.79	-	-	3	15.79	8	42.11	-	-	8	42.11
in teaching	Agriculture	-	-	9	52.94	9	52.94	-	-	2	11.76	2	11.76	-	-	6		6	35.29
7. Introduction	Art/Craft	1	8.33	66	50.00	7	58.33	1	8.33	2	16.67	3	25.00	-	-	2	35.29	2	16.67
of these	Music	2	11.76	10	58.82	12	70.59	1	5.88	1	5.88	2	11.76	-	-	3	16.67	3	17.65
subjects	Business Ed	-	-	6	40.00	6	40.00	-	-	3	20.00	3	20.00	-	-	6	17.65	6	40.00
in KCPE has	H/Science	11	57.89	-	-	11	57.89	3	15.79	-	-	3	15.79	5	26.32	-	40.00	5	26.32
up-lifted	Agriculture	-	-	8	47.06	8	47.06	-	-	2	11.76	2	11.76	-	-	7	- 41.18	7	41.18
8. Colleges	Art/Craft	1	8.33	6	50.00	7	58.33	1	8.33	1	8.33	2	16.67	-	-	3	25.00	3	25.00
not adequately	Music	1	5.88	6	35.29	7	41.18	-	-	1	5.88	1	5.88	1	5.88	8	47.06	9	52.94
equipped in	Business Ed	-	-	5	33.33	5	33.33	-	-	1	6.67	1	6.67	-	-	9	60.00	9	60.00
	H/Science	7	36.84	-	-	7	36.84	-	5.26	-	-	1	5.26	11	57.81	-	-	11	57.89
	Agriculture	-	-	11	64.71	11	64.71	-	-	-	-	-	-	-	-	6	35.29	6	35.29
9. There is	Art/Craft	2	16.67	7	58.33	9	75.00	-	-	1	83.33	1	8.33	-	-	2	16.67	2	16.67
need	Music	3	17.65	100	58.82	13	76.43	-	-	1	5.88	1	5.88	-	-	3	17.65	3	17.65
to in-service	Business Ed	-	-	9	60.00	9	60.00	-	-	4	26.67	4	26.67	-	-	2	13.33	2	13.33
tutors	H/Science	14	73.68	-	-	14	73.68	3	15.79	-	-	3	-	2	10.53	-	-	2	10.53
	Agriculture	-	-	12	70.59	12	70.59	-	-	3	17.65	3	17.65	-	-	2	11.76	2	11.76

Continued

10. Students	Art/Craft	1	8.33	3	25.00	4	33.33	1	8.33	1	8.33	2	8.33	-	-	6	50.00	6	50.00
response	Music	2	11.76	5	29.4	7	41.18	-	-	2	11.76	2	11.76	1	5.88	7	41.18	8	47.06
these	Business Ed	-	-	4	26.67	4	26.67	-	-	1	6.67	1	6.67	-	-	10	66.66	10	66.66
subjects mostly	H/Science	4	21.05	-	-	4	21.05	1	5.26	-	-	1	-	14	73.68	-	-	14	73.68
negative	Agriculture	-	-	9	52.94	9	52.94	-	-	3	17.65	3	17.65	-	-	5	29.41	5	29.41

Appendix M
Students' Attitudes Towards Vocational Subjects

			Females (N=160)				Males (n=160)				Total (N=320)			
			Agree		Disagree		Agree		Disagree		Agree		Disagree	
Variable			No.	%	No	%	No.	%	No	%	No.	%	No	%
1. I like	Art/Craft	77	48.13	83	51.88	111	69.38	49	30.63		188	58.75	132	41.25
	Agriculture	44	27.50	116	72.50	127	79.38		20.63		171	53.44	149	46.56
	Business Education	66	41.25	94	58.75	92	51.50	33	42.50		158	49.38	162	50.63
	Home Science	114	71.25	46	28.75	44	27.50	68	72.50		158	49.38	162	50.63
	Music	69	43.13	91	56.88	83	51.88	116	48.13		152	47.50	168	52.50
								77						
2. Subject harder than others	Art/Craft	89	55.63	71	44.88	69	43.13	91	56.88		158	49.38	162	50.63
	Music	93	58.13	67	41.88	78	48.75	82	51.25		171	53.44	149	46.56
	Home Science	49	30.63	111	69.38	93	58.13	67	41.88		142	44.38	178	55.63
	Agriculture	109	68.13	51	31.88	46	28.75	114	71.25		155	48.44	165	51.56
	Business Education	82	51.25	78	48.75	49	36.88	101	63.13		141	44.06	179	55.94
3. Unsure on my performance in PTE in	Art/Craft	105	65.63	55	34.37	71	44.38	89	55.63		175	55.00	144	45.00
	Music	79	49.38	81	50.63	70	43.75	90	56.25		179	46.56	171	53.44
	Home Science	61	38.13	99	61.88	114	71.25	46	28.75		175	54.69	145	45.31
	Agriculture	97	60.63	63	39.38	79	49.38	81	50.63		176	55.00	144	45.00
	Business Education	74	46.25	86	53.75	77	48.13	83	51.88		151	47.19	169	52.81
4. Learning the subject is interesting	Art/Craft	75	44.88	85	53.13	82	51.25	78	48.75		157	49.06	163	50.94
	Music	86	53.75	74	46.25	74	46.25	86	53.75		160	50.00	160	50.00
	Home Science	94	58.75	66	41.25	91	56.88	69	43.13		185	57.81	135	42.19
	Business Education	87	54.38	73	45.63	98	61.25	62	38.75		185	57.81	135	42.19
	Agriculture	45	28.13	115	71.88	131	81.88	29	18.13		176	55.00	144	45.00

Continued

5. I spend most time doing exercises in	Art/Craft	78	48.75	82	51.25	79	49.38	81	50.63	157	49.06	163	50.94
	Music	81	50.63	79	49.38	69	43.13	91	56.88	150	46.88	170	53.13
	Agriculture	77	48.13	83	51.88	101	63.13	59	36.88	178	55.63	142	44.38
	Business Education	66	41.25	94	58.75	76	47.50	84	52.50	142	44.38	178	55.63
	Home Science	124	77.50	36	22.50	47	29.38	113	70.63	171	53.44	149	46.56
6. Too much work in	Music	82	51.21	78	48.75	78	48.75	82	51.25	160	50.00	160	50.00
	Art/Craft	87	54.38	73	45.63	91	56.88	69	43.13	178	55.63	142	44.38
	Home Science	70	43.75	90	56.15	121	75.63	39	24.38	191	59.69	129	40.31
	Agriculture	88	55.00	72	45.00	79	49.38	81	50.63	167	52.19	153	47.81
	Business Education	69	43.13	91	56.88	83	51.88	77	48.13	152	47.50	168	52.50
7. Friends encourage me to study	Music	72	45.00	88	55.00	83	51.88	77	48.13	155	48.44	165	51.56
	Art/Craft	79	49.38	81	50.63	56	35.00	104	65.00	135	42.19	185	57.81
	Home Science	83	51.88	77	48.13	44	27.50	116	72.50	127	39.69	193	60.31
	Business Education	69	43.13	91	56.88	78	48.75	82	51.25	147	45.94	173	54.06
	Agriculture	80	50.00	80	50.00	81	50.63	79	49.38	161	50.31	159	49.69
8. Tutors encourage me to study	Music	82	51.25	78	48.75	82	51.25	78	48.75	164	50.25	156	48.75
	Art/Craft	91	56.8	69	43.13	91	56.88	69	43.13	182	56.88	38	43.13
	Home Science	96	60.00	64	40.00	97	60.63	63	39.38	193	60.31	127	39.69
	Business Education	81	50.63	79	49.38	81	50.63	79	49.38	162	50.63	158	49.38
	Agriculture	113	70.63	47	29.38	99	61.88	61	38.13	212	66.25	108	33.75

Continued

9. If subjects were optional I would drop												
	Art/Craft	116	72.50	44	27.50	76	47.50	84	52.50	192	60.00	128	40.00
	Music	81	50.63	79	49.38	79	49.38	81	50.63	160	50.00	160	50.00
	Home Science	49	30.63	111	69.38	121	75.63	39	24.38	170	53.13	150	46.88
	Business Education	106	66.25	54	33.75	62	38.75	98	61.25	168	52.50	152	47.50
	Agriculture	57	60.63	63	39.38	60	37.50	100	62.50	157	49.06	163	50.94

APPENDIX N

JEANNES SCHOOL CURRICULUM: TWO YEARS'

CURRICULUM FOR JEANNES SCHOOL TEACHERS

FIRST YEAR

Term	Continuous Throughout	Professional Courses	General Class Lessons	Practical Training
I	-School prayers -Drill and Games -Religious Instruction	-Introduction to Jeanes work.	-Language drill instruc-tion -Arith-methic and accounts Hygiene	-Agriculture and manual work. -Village work
II	-School prayers -Drill and Games. -Religious Instruction	-Child study (observation) of children's work)	-Nature study -Geography -Arithmethic and accounts - Hygiene - Drill Instruction - Language - Black-board work	-Agriculture and manual work. -Village work
III	-School prayers -Drill and games -Religious Instruction	-Child study -Teaching of Hygiene -Teaching of Reading -Teaching of Arithmetic	-Nature study -Geography -Rural Economics -Menstruation -Practical -work -Construct-ion of material for Teaching	-Agriculture Experiment and -instruction -Manual work. -Village work

SECOND YEAR

Term	Continuous Throughout	Professional Courses	General Class Lessons	Practical Training
I	-School Prayers -Drill and Games -Religious Instruction	-School and management -Preparation of Lessons -Demonstration lessons and observation	In two alternate groups of 6 weeks each:- -writing of lesson plans and daily notes. -Use of timetables, suggestions and criticisms by supervisor	-Dairy -Dispensary -Carpentry
II	-School Prayers -Drill and Games -Religious Instruction	-Supervision for school improvement -Education and Native customs -School and class management -How to prepare lessons -Demonstration of Lessons and Criticism.	In two alternate groups of 5 weeks each:- -writing a programme of course of lessons	-Dairy -Dispensary -Carpentry

Term	Continuous Throughout	Professional Courses	General Class Lessons	Practical Training
III	-School prayers -Drill and Games -Religious Instruction	-Theory of education -Supervision for village improvement -How to prepare lessons. -Criticism of lessons	In two alternative groups of 5 weeks each:- -Preparing and carrying out a programme for teachings, helping with timetables, class management. -Practice in community welfare work.	-Dairy -Dispensary

Source: Sifuna, D.N.: Vocational Education in Schools E.A.L.B. Nairobi, 1976, pg. 171-172.

APPENDIX O

CORRELATION FORMULAE

(i) Spearman Brown Formula

$$r_{11} = \frac{2r\frac{1}{2}}{1+r\frac{1}{2}}$$

Where r_{11} is the estimated reliability coefficient for the whole scale and $r\frac{1}{2}$ is the value obtained by correlating the two halves (Smith, 1970, p. 161).

(ii) Pearson r formula

$$r = \frac{dxdy}{N\sigma x \sigma Y}$$

Where r stands for coefficient of correlation, σ X and σY refer to standard deviations of X and Y series and N is the number of observations in a series (Balchandawi M.A. and Sareen S.S., 1982 p. 117).

APPENDIX P

LISTING OF COLLEGES

S.NO.	COLLEGE
00	Highridge TTC
01	Machakos TTC
02	Kigari TTC
03	Kilimambogo TTC
04	Asumbi TTC
05	Mosoriot TTC
06	Kamwenja TTC
07	Migori TTC
08	Egoji TTC
09	Kericho TTC
10	Shanzu TTC
11	Kaimosi TTC
12	Meru TTC
13	Thogoto TTC
14	Eregi TTC.